

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MILLERKNOLL, INC.,
Petitioner,

v.

AARON DEJULE,
Patent Owner.

Patent No. 10,893,753
Filing Date: May 10, 2019
Issue Date: January 19, 2021

Title: APPARATUS WITH WEIGHT RESPONSIVE
CHANGEABLE ADJUSTING CHARACTERISTICS

Inter Partes Review No.: IPR2023-01427

**DECLARATION OF MARCUS C. KOEPKE IN SUPPORT OF PETITION
FOR INTER PARTES REVIEW**

TABLE OF CONTENTS

I.	INTRODUCTION	5
II.	PROFESSIONAL BACKGROUND AND QUALIFICATIONS	6
A.	Education	6
B.	Professional Experience.....	6
C.	Patents and Publications	9
III.	MATERIALS CONSIDERED	9
IV.	APPLICABLE LEGAL STANDARD AND PRINCIPLES	10
V.	THE RELEVANT ART AND LEVEL OF ORDINARY SKILL IN THE RELEVANT ART.....	12
VI.	THE DEJULE '753 PATENT	13
A.	Prosecution History.....	13
B.	Brief Description of the Alleged Invention	15
C.	Priority Dates	19
D.	Claim Construction	25
1.	“adjusting assembly”	26
2.	“a seat mounted on the frame”.....	33
VII.	SUMMARY OF OPINIONS WITH RESPECT TO THE DEJULE '753 PATENT	35
VIII.	SCHMITZ '637 ANTICIPATES CLAIMS 1-6, 8-14, AND 18-22	37
A.	Independent Claim 1	37
1.	[1] A reconfigurable apparatus for seating a user, the reconfigurable apparatus comprising:	37
2.	[1.a] a frame, ...	38
3.	[1.b] a seat mounted on the frame and movable relative to the frame between: a) a first position in which the seat resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat,.....	39

4.	[1.c] a back rest against which a user sitting on the seat can bear his/her back to produce a leaning force that changes an angular orientation of the back rest relative to the frame	46
5.	[1.d] the apparatus configured so that a first leaning force is required to be applied to the back rest to change the angular orientation of the back rest from a starting angular position relative to the frame with no user sitting in the seat;	48
6.	[1.e] and an adjusting assembly comprising a plurality of gears that cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position and configured to thereby increase a resistance to changing of the angular orientation of the back rest from the starting angular position,.....	51
7.	[1.f] whereby as an incident of a user sitting on the seat a leaning force greater than the first leaning force is required to change the angular position of the back rest from the starting angular position.....	58
B.	Dependent Claim 2	59
C.	Dependent Claim 3	62
D.	Dependent Claim 4	64
E.	Dependent Claim 5	67
F.	Dependent Claim 6	70
G.	Dependent Claim 8	72
H.	Dependent Claim 9	73
I.	Dependent Claim 10	74
J.	Dependent Claim 11	79
K.	Dependent Claim 12	80
L.	Dependent Claim 13	82
M.	Dependent Claim 14	84
N.	Dependent Claim 18	85
O.	Dependent Claim 19	88
P.	Dependent Claim 20	89

Q.	Dependent Claim 21	92
R.	Dependent Claim 22	98
IX.	TAKAMATSU '372 ANTICIPATES CLAIMS 1-3, 7, 15, AND 17	102
A.	Independent Claim 1	102
1.	[1] A reconfigurable apparatus for seating a user, the reconfigurable apparatus comprising:	102
2.	[1.a] a frame, ...	103
3.	[1.b] a seat mounted on the frame and movable relative to the frame between: a) a first position in which the seat resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat, ...	104
4.	[1.c] a back rest against which a user sitting on the seat can bear his/her back to produce a leaning force that changes an angular orientation of the back rest relative to the frame, ...	114
5.	[1.d] the apparatus configured so that a first leaning force is required to be applied to the back rest to change the angular orientation of the back rest from a starting angular position relative to the frame with no user sitting in the seat;	118
6.	[1.e] and an adjusting assembly comprising a plurality of gears that cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position and configured to thereby increase a resistance to changing of the angular orientation of the back rest from the starting angular position, ...	121
7.	[1.f] whereby as an incident of a user sitting on the seat a leaning force greater than the first leaning force is required to change the angular position of the back rest from the starting angular position.....	130
B.	Dependent Claim 2	131
C.	Dependent Claim 3	133
D.	Dependent Claim 7	136
E.	Dependent Claim 15	139
F.	Dependent Claim 17	140
X.	SCHMITZ '738 ANTICIPATES CLAIM 16	142

A.	Independent Claim 1	142
1.	[1] A reconfigurable apparatus for seating a user, the reconfigurable apparatus comprising:	142
2.	[1.a] a frame	143
3.	[1.b] a seat mounted on the frame and movable relative to the frame between: a) a first position in which the seat resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat;.....	145
4.	[1.c] a back rest against which a user sitting on the seat can bear his/her back to produce a leaning force that changes an angular orientation of the back rest relative to the frame, ...	149
5.	[1.d] the apparatus configured so that a first leaning force is required to be applied to the back rest to change the angular orientation of the back rest from a starting angular position relative to the frame with no user sitting in the seat;	153
6.	[1.e] and an adjusting assembly comprising a plurality of gears that cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position and configured to thereby increase a resistance to changing of the angular orientation of the back rest from the starting angular position,.....	154
7.	[1.f] whereby as an incident of a user sitting on the seat a leaning force greater than the first leaning force is required to change the angular position of the back rest from the starting angular position.....	161
B.	Dependent Claim 15	162
C.	Dependent Claim 16	164
XI.	ACKNOWLEDGEMENT	166

I, Marcus C. Koepke, declare that I have personal knowledge of the facts set forth in this declaration and, if called to testify as a witness, could and would do so competently.

I. INTRODUCTION

1. I, Marcus C. Koepke, have been retained by Banner & Witcoff, Ltd. (“Banner”) on behalf of MillerKnoll, Inc. (“MillerKnoll”) for the above-referenced *inter partes* review proceeding.

2. I reside in Marco Island, Florida.

3. I have been asked to provide a declaration regarding furniture, weight-responsive tilting control assemblies for chairs, and related technologies as well as the relevant industry and level of skill in the art. I have also been asked to render opinions regarding certain matters pertaining to U.S. Patent No. 10,893,753 (Ex. 1001, the “DeJule ’753 Patent”) and the unpatentability grounds set forth in the Petition for this proceeding.

4. I have not previously provided testimony as an expert witness in a legal proceeding, but I am being compensated at my usual consulting rate of \$400 per hour for my work on this matter. My compensation is in no way dependent upon my opinions or testimony, the outcome of this proceeding, or any issues involved in or related to this proceeding.

II. PROFESSIONAL BACKGROUND AND QUALIFICATIONS

5. A description of my professional background and qualifications is provided below. An additional account of my work experience and qualifications is included in my Curriculum Vitae, which is attached as Exhibit 1013 to the Petition.

6. I believe that my extensive industry experience (including experience with designing and developing multiple lines of office seating products) and educational background qualify me as an expert in the relevant field. I am knowledgeable of the relevant skill set that would have been possessed by a hypothetical person of ordinary skill in the art at the time of the invention of the DeJule '753 Patent, which I understand is February 11, 2015 for purposes of this proceeding.

A. Education

7. I obtained a Bachelor of Science degree in Design from the University of Cincinnati College of Design, Architecture, Art and Planning.

B. Professional Experience

8. I am an independent furniture designer that consults with individuals and small businesses in a variety of industries. Prior to this, I worked as a contract designer in the Contract Commercial Furniture Industry from 1989-2016. There, I designed furniture intended for commercial (rather than residential) use. Such

commercial furniture must be manufactured to meet established industry standards and is subjected to stringent testing and certification processes.

9. As a contract designer, I developed innovative seating lines for several Contract Furniture Manufacturers, including Allsteel, Kimball International, HON, Gunlocke, and National Office Furniture. In all, I created approximately twenty-two lines of seating in the Contract Furniture Industry, including ergonomic task chairs and guest chairs. Five of the twenty-two chair lines I developed include weight-sensitive task and ergonomic chairs. These include mechanisms and apparatuses that are in the same realm as those disclosed in the DeJule '753 Patent and in the prior art references I discuss below.

10. As one example, I designed the Relate line of seating for Allsteel. *See* <https://www.allsteeloffice.com/products/seating/relate>. The Relate chair includes a weight-sensing synchronized tilt mechanism, and was protected by U.S. patents, including U.S. Patent No. 7,837,265. I include an image of a Relate chair from Allsteel's website below.



11. During this time, I also served as an adjunct professor in Purdue University's Department of Industrial Design. There, I taught an accredited furniture design class annually from around 2002-2014.

12. Before I became a contract furniture designer, I worked at Digital Equipment Corporation ("DEC") from 1974-1989. I started as an Associate Designer and ended my career at DEC as a Design Consultant, the top position in the Design Department. I was responsible for the configuration of the internal components, ergonomics, enclosure, and aesthetic of DEC's Workstation, Monitors, and Keyboards. I worked closely with Ken Olsen, then President of DEC, and his team of planners to help them visualize how the next generation of product might look, feel and cost.

C. Patents and Publications

13. I am a named inventor on over 25 issued utility patents, including several that relate to the weight-sensitive task chairs I referenced above, and over 50 issued design patents. Thus, I am generally familiar with the prosecution of patent applications before the United States Patent & Trademark Office (“USPTO”) and have a general understanding of the novelty and non-obviousness requirements for patentability.

14. I have not authored any publications in the previous ten years.

III. MATERIALS CONSIDERED

15. In forming my opinions, I reviewed and considered the DeJule ’753 Patent (Ex. 1001), as to which I am offering my opinion regarding the validity of certain claims. I have also reviewed and considered U.S. Patent No. 10,292,498 (Ex. 1002, the “’498 Patent”), to which the DeJule ’753 Patent claims priority, the file history of the ’498 Patent (Ex. 1004), the file history of the DeJule ’753 Patent (Ex. 1005), and at least the following references:

- U.S. Patent Application Publication No. 2009/0261637 to Schmitz et al. (Ex. 1006, “Schmitz ’637”)
- U.S. Patent No. 5,348,372 to Takamatsu et al. (Ex. 1007, “Takamatsu ’372”)

- U.S. Patent No. 10,531,738 to Schmitz et al. (Ex. 1008, “Schmitz ’738”)

16. I also considered U.S. Provisional Application No. 62/114,706 (Ex. 1003), to which the DeJule ’753 Patent claim priority, German Patent Application No. DE 10 2015 003 156.2 (Ex. 1010)—and the certified English translation thereof submitted with the Petition (Ex. 1011)—to which Schmitz ’738 claims priority, and U.S. Patent No. 7,992,936 (Ex. 1015, “Schmitz ’936”).

17. In addition to these materials, I may consider additional documents and information in forming any supplemental opinions. To the extent I am provided additional documents or information, including any expert declarations in this proceeding, I may offer further opinions.

IV. APPLICABLE LEGAL STANDARD AND PRINCIPLES

18. I understand that my assessment of the patentability of the claims of the DeJule ’753 Patent must be undertaken from the perspective of what would have been known or understood by a person having ordinary skill in the art (a “PHOSITA”) upon reading the DeJule ’753 patent as of its relevant priority date, and in light of the specification and file history of the DeJule ’753 patent. Although I am not an attorney, I have a general understanding of the applicable legal standards pertaining to the patentability issues presented in this proceeding.

19. I understand that, in an *inter partes* review, Petitioner has the burden of proving that each challenged claim is unpatentable by a preponderance of the evidence. I understand this means Petitioner must show it is more likely than not that each challenged claim is unpatentable.

20. I also understand that to be valid, a patent claim must be “novel,” and is invalid if “anticipated” by a single prior art reference. I further understand that a reference anticipates if it discloses each and every element as arranged in the claim, so as to enable a PHOSITA to make and use the claimed invention without undue experimentation. I further understand that a prior art reference can anticipate a claim even if it does not literally disclose all the limitations as arranged or combined in the claim if a PHOSITA, reading the reference, would at once envisage, or immediately envision, the claimed arrangement or combination.

21. I also understand that a prior art reference discloses a means-plus-function claim limitation if the relevant structure disclosed in the prior art reference performs the identical function recited in the means-plus-function limitation, and that structure disclosed in the reference is identical or equivalent to corresponding structure found in the DeJule ’753 Patent. I understand that the test for determining the “equivalents” of relevant structures of a means-plus-function limitation is whether the differences between the prior art structure and any disclosed in the DeJule ’753 Patent are insubstantial. Put another way, I understand a structure is

equivalent if it provides the same function in substantially the same way to provide substantially the same result. I also understand that the equivalent of a means-plus-function limitation must have been available at the time of the issuance of the DeJule '753 Patent claims.

V. THE RELEVANT ART AND LEVEL OF ORDINARY SKILL IN THE RELEVANT ART

22. The DeJule '753 Patent, the patent at issue in this proceeding, relates generally to the field of seating mechanisms, and more particularly, to mechanisms that adjust the resistance provided by a chair to the tilting of the chair's backrest. The DeJule '753 Patent discloses a mechanism that purports to automatically adjust the force required to tilt a chair's backrest based on the weight of the user, as an incident of the user sitting in the seat.

23. A PHOSITA of the DeJule '753 Patent at the time of the alleged invention of the DeJule '753 Patent, and for at least several years prior to this time, would have a bachelor's degree in industrial design, mechanical engineering, or a similar discipline, and at least 2-3 years of experience with furniture design. I worked in the relevant field with such persons at, and leading up to, the time of the alleged invention of the DeJule '753 Patent. Thus, I had at least such ordinary skill at the time of the invention and am familiar with the knowledge that such persons had at the time (*i.e.*, February 11, 2015).

24. All of my statements in this declaration regarding what a person of ordinary skill in the art would have known, understood, appreciated, etc. refer to a PHOSITA on or before February 11, 2015.

VI. THE DEJULE '753 PATENT

A. Prosecution History

25. The DeJule '753 Patent resulted from U.S. Patent App. No. 16/408,650 which was filed on May 10, 2019 (the "'650 Application"). Ex. 1001, p.1. The '650 Application is a continuation of U.S. Patent App. No. 15,040,735, filed on February 10, 2016 (the "'735 Application"), and also claims priority to U.S. Provisional App. No. 62/114,706, filed on February 11, 2015 (the "Provisional"). *Id.*

26. During prosecution of the '735 Application, which issued as the '498 Patent, the claims were rejected as anticipated by or obvious in view of Schmitz '637. Ex. 1004, 84-87. In response, the applicants amended independent claim 1 to require that the claimed "adjusting assembly" be "configured so that as an incident of the force being applied in the first manner changing in magnitude, the force being applied in the second manner required to reconfigure the apparatus and move the second component relative to the first component changes in magnitude." Ex. 1004, 104. In other words, as applied in the context of a chair, the claim was amended to require that the adjusting assembly change the amount of force required to tilt a "second component" (e.g., the backrest) relative to a "first component" (e.g., the

seat) in response to the weight of a user sitting on the seat—as opposed to just relative to the chair’s frame. The applicants argued this limitation distinguished Schmitz ’637 because, according to the applicants, the backrest of Schmitz ’637 “pivot[s]...as a unit” with its seat as opposed to independently of its seat. Ex. 1004, 112. The ’735 Application was allowed without further rejection, and the ’498 Patent issued on May 21, 2019. Ex. 1002, p.1

27. The ’650 Application was filed on May 10, 2019. Ex. 1001, p.1. The original claims were similar to those that issued with the ’498 patent, except independent claim 1, the only independent claim, did not include the limitation that the applicants had relied on to distinguish the Schmitz ’637 reference: the requirement that the claimed “adjusting assembly” change the amount of force required to tilt the “second component” (e.g., the seat back) relative to the “first component” (e.g., the seat) in response to the weight of the user sitting on the seat. Instead, claim 1 simply required that the adjusting assembly operate to “increase a resistance to changing of the angular orientation of the back rest *from the starting angular position.*” Ex. 1005, 13. Nonetheless, the ’650 Application was allowed without rejection over the prior art, and the DeJule ’753 Patent issued on January 19, 2021. Ex. 1001, p.1.

28. In view of this summary, in my opinion, at least claim 1 of the ’650 Application should have been rejected as anticipated by the Schmitz ’637 reference.

As discussed above, claim 1 of the '650 Application was substantially similar to claim 1 of the '498 Patent, except that claim 1 of the '650 Application lacked the one limitation the applicants of the '498 Patent had relied on to overcome Schmitz '637: the requirement that the claimed “adjusting assembly” change the amount of force required to tilt the “second component” (e.g., the seat back) relative to the “first component” (e.g., the seat) in response to the weight of the user sitting on the seat. Claim 1 of the '650 Application did recite one additional limitation that was not present in claim 1 of the '498 Patent: that the claimed “adjusting assembly” comprise a “plurality of gears.” Ex. 1005, 13. But, as I explain below (Section VIII.A.6), that additional limitation is disclosed by Schmitz '637. Thus, in my opinion, the examiner should have rejected at least claim 1 of the '650 Application as anticipated by Schmitz '637.

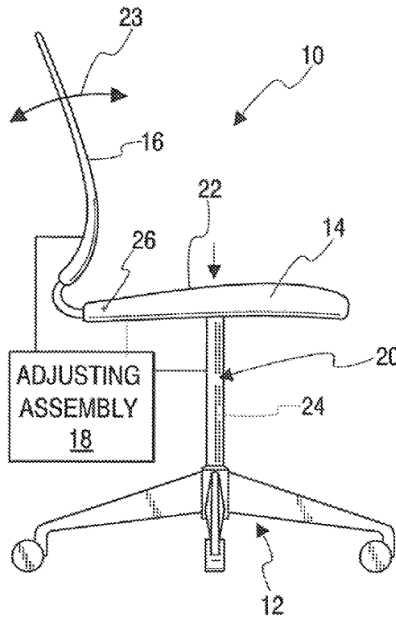
29. Additional prior art references anticipate claim 1 and the other dependent claims of the DeJule '753 Patent. Unlike Schmitz '637, those other prior art references discussed in Section VII below, including Takamatsu '372 and Schmitz '738, were never cited or otherwise made of record during prosecution of the application that issued as the DeJule '753 Patent. *See* Ex. 1001, pp. 1-2.

B. Brief Description of the Alleged Invention

30. The DeJule '753 Patent is titled “Apparatus with Weight Responsive Changeable Adjusting Characteristics.” Ex. 1001, p. 1. Referring to Fig. 2 of the

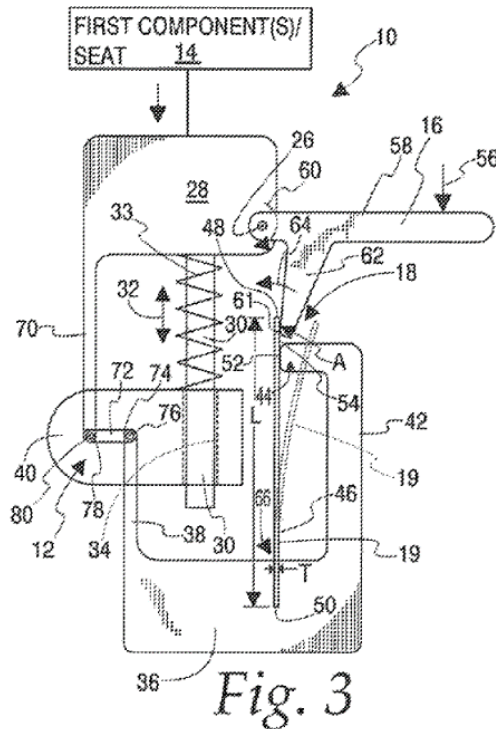
DeJule '753 Patent, a chair 10 incorporating an adjusting assembly 18 is disclosed.

Ex. 1001, Fig. 2.



Ex. 1001, Fig. 2.

31. Referring to Fig. 3 of the DeJule '753 Patent, an exemplary embodiment of the adjusting assembly 18 is shown. Ex. 1001, Fig. 3. A seat 14 is mounted on a support 28 that has depending post 30 extending below it. Ex. 1001, 6:9-13. Depending post 30 is received in a guide channel 34 in frame component 12. Ex. 1001, 6:12-13. A coil spring 33 biases the support 28 upwardly. Ex. 1001, 6:14-16.



Ex. 1001, Fig. 3.

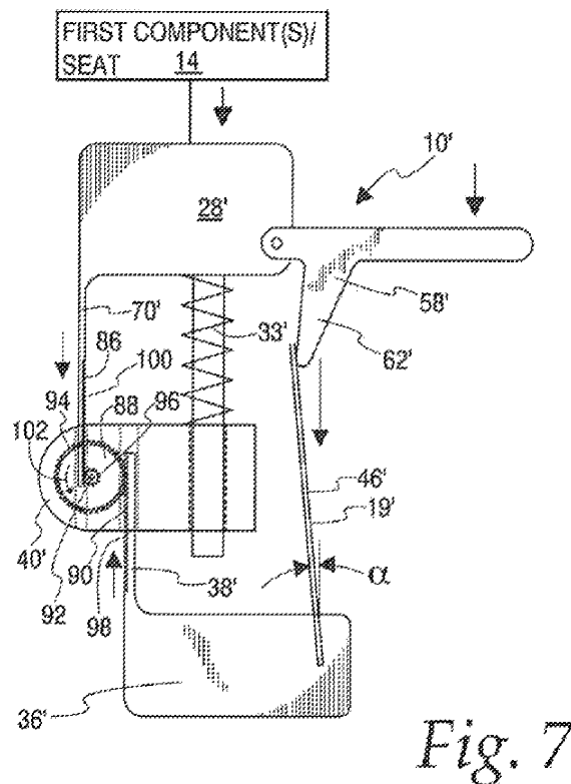
32. Also mounted on support 28 is backrest component 58, which pivots about axis 26 in response to a user leaning his or her back against backrest 16. Ex. 1001, 6:39-46.

33. The assembly also includes a “U-shaped member 36,” which has one leg 38 mounted on frame 12 and another leg 42. Ex. 1001, 6:17-19. A leaf spring 19 is anchored in U-shaped member 36 and extends upwardly therefrom. Ex. 1001, 6:29-30. An edge 61 of backrest component 58 bears against leaf spring 19, and leaf spring 19 resists rotation, or tilting, of backrest component 58. Ex. 1001, 6:47-56.

34. When a user sits on seat 14, coil spring 33 compresses by an amount proportional to the weight of the user, and seat 14 and support 28 move downward

relative to frame 12 and U-shaped member 36. Ex. 1001, 6:65-7:1. As a result, the location at which edge 61 of backrest component 58 bears against leaf spring 19 also moves down relative to leaf spring 19. Ex. 1001, 7:1-3. This, in turn, shortens the effective length of leaf spring 19, whereby a greater amount of force is required to pivot backrest component 58 about axis 26—in other words, to tilt backrest 16. Ex. 1001, 7:3-7.

35. Referring to Figure 7 of the DeJule '753 patent, a modified form of the adjusting assembly 18' is shown. Ex. 1001, Fig. 7.



Ex. 1001, Fig. 7.

36. In this embodiment, gears, or “cooperating toothed elements,” 86, 96, 94, and 90 interact such that the lowering of the seat 14 and support 28’ also results in an upward movement of member 36’ and leaf spring 19’. Ex. 1001, 8:3-15. In particular, rack gear 86 extends downwardly from support 28’ and drives a small pinion gear 96. *Id.* Small pinion gear 96 turns with a larger pinion gear 94, which drives rack gear 90—and thus member 36’ and leaf spring 19’—upward. *Id.*

37. In this way, the effective length of leaf spring 19’ is shortened not just by the distance seat 14 travels down in response to a user sitting, but also by the distance member 36’ moves up in response to movement of seat 14 (as a result of the interaction of the gears).

C. Priority Dates

38. I understand that for claims of a non-provisional utility application to be entitled to the filing date of an earlier-filed provisional application, the written description of the provisional application must adequately support the later-filed claims of the non-provisional application. It is my further understanding that to satisfy the written description requirement, a provisional application must describe an invention in sufficient detail that one skilled in the art can clearly conclude that the inventor invented the claimed invention as of the provisional filing date.

39. I further understand that an element of a later-filed claim may be inherently disclosed in an earlier-filed provisional application, even if the element is

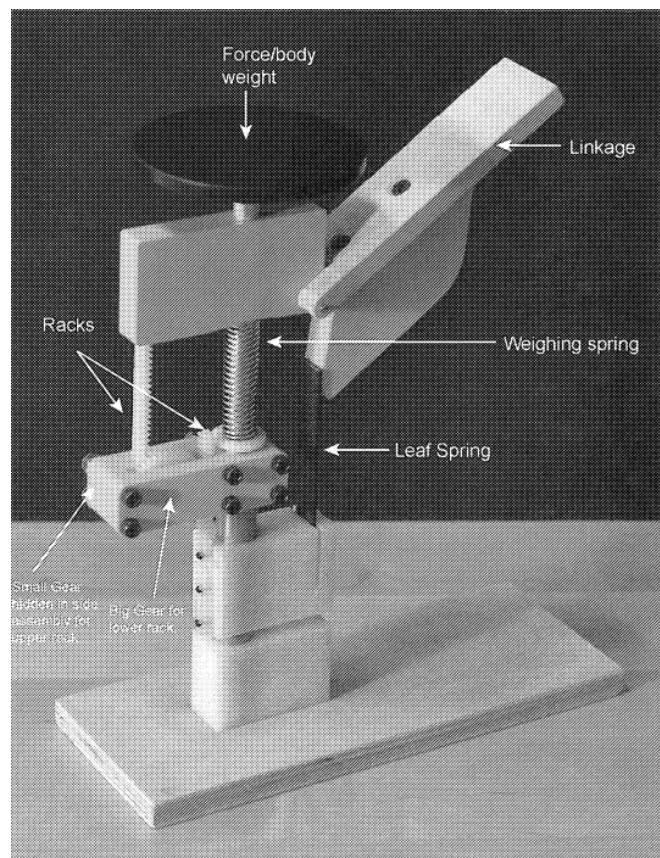
not explicitly or expressly described or depicted in the provisional application. However, it is my understanding that to be inherently disclosed, a PHOSITA must be able to recognize that the element is *necessarily* present in the disclosure of the provisional application. In other words, it is my understanding that if it is merely possible—or even probable—that the claim element would result from the description of the provisional application, the provisional application does not provide written description support for the claim element.

40. It is my further understanding that entitlement to a filing date does not extend to subject matter which is not disclosed, but would be obvious in view of what is expressly disclosed.

41. As discussed in more detail below, it is my opinion that every claim of the DeJule '753 Patent is anticipated by either Schmitz '637 or Takamatsu '372, with the exception of claim 16 of the DeJule '753 Patent. Takamatsu '372 was published on September 20, 1994, Ex. 1007, p. 1, and the Schmitz '637 reference was published on October 22, 2009, Ex. 1006, p. 1. These dates both pre-date the February 11, 2015 filing date of the Provisional. Thus, I understand Schmitz '637 and Takamatsu '372 are prior art to the claims of the DeJule '753 Patent regardless of whether those claims are entitled to claim priority to the filing date of the Provisional.

42. As for claim 16 of the DeJule '753 Patent, in my opinion, the disclosure of the Provisional does not provide written description support for all the elements of this claim. Thus, in my opinion, the earliest possible priority date of claim 16 of the DeJule '753 Patent is February 10, 2016, the date the '735 Application was filed.

43. I have reviewed the Provisional application to which the DeJule '753 Patent claims priority. The two-page specification of the Provisional describes an adjusting assembly that resembles that depicted in Figure 7 of the DeJule '753 Patent. I include below an image from the Provisional. Ex. 1003, p. 4.



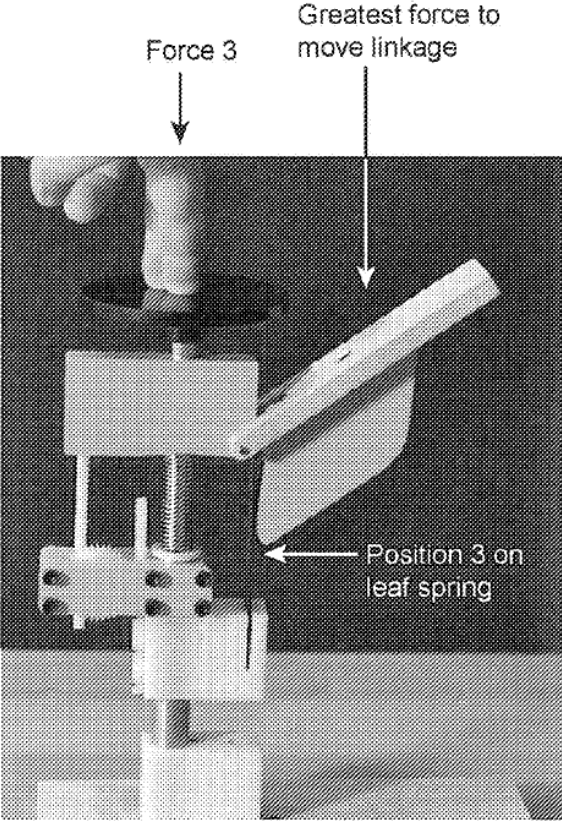
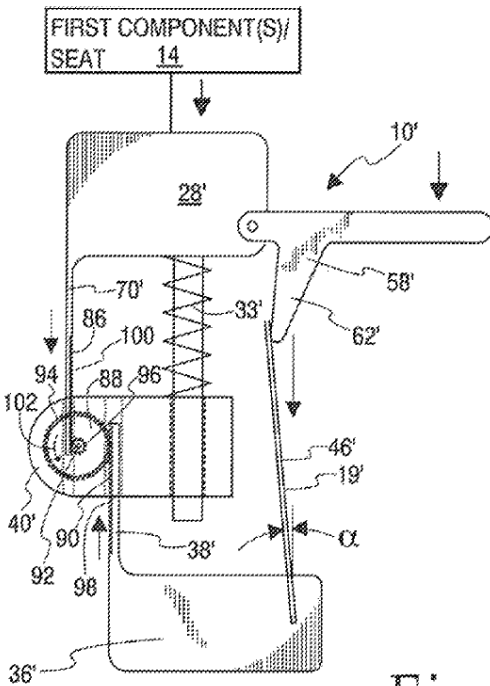
Ex. 1003, p. 4.

44. As shown above, the Provisional discloses a seat-type structure (black disc) on a rectangular member that is supported by a “Weighing spring.” *Id.* Pivotaly attached to the rectangular member is a “Linkage” that represents a backrest-type component. *Id.* The Linkage bears against a “Leaf Spring” that is anchored in another rectangular member below the Leaf Spring. *Id.* As in the embodiment shown in Figure 7 of the DeJule ’753 Patent, a “Rack[]” extends down from the rectangular member supporting the seat. *Id.* When the seat lowers in response to a user sitting, this Rack drives a “Small Gear hidden in side assembly for upper rack.” *Id.* This Small Gear turns with a “Big Gear for lower rack,” which drives a Rack extending up from the rectangular member that holds the leaf spring. *Id.*

45. Thus, as the Linkage moves down relative to the Leaf Spring (in response to a user sitting), the Leaf Spring also moves up (in response to the turning of the gears). As a result, the effective length of the Leaf Spring is shortened, and more force is required to rotate the Linkage. As described in the Provisional, “as an individual sits down, the position on the leaf spring self-adjusts thereby adjusting the tension on the chair’s kinematic control.” *Id.* In particular, the Provisional explains that the “weighing spring compresses proportional to the weight of the person sitting” and that, in turn, the “invention’s racks and gears changes the working length of the leaf spring.” *Id.* at 4-5.

46. In my opinion, this disclosure does not provide written-description support for claim 16 of the DeJule '753 Patent. Claim 16 recites the “reconfigurable apparatus for seating a user according to claim 15 wherein the first and second gears turn around different axes.” Ex. 1001, 14:1-3. Even assuming that the Provisional supports all the elements of claim 15 of the DeJule '753 Patent, in my opinion, the Provisional does not provide written-description support for the claim element “wherein the first and second gears turn around different axes.”

47. As discussed above, the Provisional discloses a “Small Gear hidden in side assembly for upper rack” and a “Big Gear for lower rack.” Ex. 1003, p. 4. However, it is clear from the disclosure of the Provisional that these gears turn on the same axis and that they do not turn around different axes. As shown in the side-by-side below, the “Small Gear” that is driven by the “upper rack,” and the “Big Gear” that drives the “lower rack,” correspond to small pinion gear 96 and large pinion gear 94 depicted in Figure 7 of the DeJule '753 Patent, respectively.

Provisional (Ex. 1003, p. 5)	DeJule '753 Patent, Fig. 7 (Ex. 1001)
	 <i>Fig. 7</i>

48. As with small pinion gear 96 and large pinion gear 94 of the DeJule '753 Patent, the “Small Gear” and “Big Gear” of the Provisional turn together on the same axis such that downward movement of the seat component (and its “upper rack”) causes upward movement of the component in which the leaf spring is anchored (via the “lower rack”). Thus, the two disclosed gears turn on the same axis. While it might be possible to add one or more additional gears to this arrangement that do not turn on the same axis, such a design is not described or suggested by the disclosure of the Provisional, and it is certainly not necessarily present.

49. In short, the disclosure of the Provisional does not support the claim element of “wherein the first and second gears turn around different axes.” Therefore, in my opinion, claim 16 of the DeJule ’753 Patent is not entitled to the filing date of the Provisional application.

D. Claim Construction

50. I understand that my analyses require an understanding of the scope of the claims of the DeJule ’753 Patent. I have been informed that in this proceeding, before the Patent Trial and Appeal Board of the U.S. Patent and Trademark Office, claim terms are construed using the same claim construction standard that would be used to construe claims in a civil action, including construing claim terms in accordance with their ordinary and customary meaning, as understood by one of ordinary skill in the art in the context of the specification and the prosecution history pertaining to the patent. I further understand that constructions may also reflect widely accepted meanings of commonly understood words, the content of the patent specification, and extrinsic evidence such as dictionaries and expert evidence. I further understand that express definitions of terms by the inventor should govern the construction of the claim. I have followed these claim construction principles in forming my opinions. In addition, I have considered and agree with MillerKnoll’s proposed claim constructions set forth in its Petition. I reserve my right to amend or

alter my analysis and opinions in view of any claim constructions Patent Owner proposes, if any, or the claim constructions adopted by the Board.

51. Therefore, in my analyses given below, I have assumed that all claim terms are construed in accordance with their ordinary and customary meaning as would have been understood by a PHOSITA as of the priority date, in view of the prosecution history and the specification, as discussed herein, with two exceptions.

52. Regarding those exceptions, two claim terms, “adjusting assembly” and “a seat mounted on the frame,” both appearing in DeJule ’753 Patent claim 1, do not have ordinary and customary meanings. Accordingly, I address the proper construction of these two terms in turn below.

1. “adjusting assembly”

53. It is my opinion that “adjusting assembly” is not a generally recognized term of art in the field of the DeJule ’753 Patent at the time of the alleged invention thereof, or at any time for that matter. Rather, as discussed below, in my opinion, “adjusting assembly” should be construed as a so-called “means-plus-function” claim term.

54. I understand that a claim term may be phrased as a “means” for performing a specified function without reciting structure to perform the function. I understand that such claim terms are referred to as “means-plus-function” (or “MPF”) claim terms.

55. I further understand that such a claim term shall be construed to cover the structure(s) described in the specification corresponding to the specified function, and equivalents thereof. In other words, I understand that when claim terms are considered as means-plus-function limitations, there is a two-step analysis to construe that claim term: (1) identify the function of the MPF limitation, and (2) identify the corresponding structure in the DeJule '753 Patent that performs the function. As for identifying the corresponding structure that performs the claimed function, I understand it is limited to the structure or structures necessary to perform the claimed function and does not include structures that merely enable the claimed function.

56. I further understand that if claim terms do not use the word “means,” then they are presumed to not be MPF terms. However, I understand that claim terms may nonetheless be construed as MPF terms even if they do not use the word “means.” I understand the test to determine whether a claim term that does not use the word “means” is an MPF term is whether the claim recites a function but does not recite definite structure for providing the claimed function.

57. In my opinion, “adjusting assembly” is properly construed as a means-plus-function claim element. Claim 1 of the DeJule '753 Patent recites an “adjusting assembly comprising a plurality of gears...and configured to [] increase a resistance to changing of the angular orientation of the backrest from the starting angular

position.” Ex. 1001, 12:41-47. In other words, the claim recites an element, “adjusting assembly,” that provides a function: configured to increase a resistance to changing of the angular orientation of the backrest. However, in my opinion, Claim 1 does not recite definite structure for providing this function.

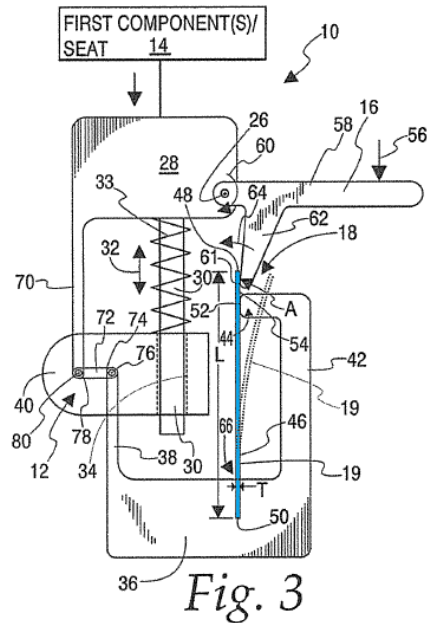
58. As a preliminary matter, a PHOSITA would not understand “adjusting assembly” to refer to definite structure in the art of the DeJule ’753 Patent, including at the time of the alleged inventions thereof. Rather, the phrase “adjusting assembly” could be used to refer to a virtually unlimited number of possible structures that could be incorporated in a seating mechanism to provide some type of adjustability.

59. Nor, in my opinion, does the specification of the DeJule ’753 Patent define “adjusting assembly” to refer to any definite structure. Rather, the DeJule ’753 Patent describes example embodiments of the claimed “adjusting assembly” that are schematic, representative, and only exemplary. For instance, the DeJule ’753 Patent explains that “FIGS. 7-16 are partially schematic representations of apparatus incorporating different forms of adjusting assemblies, according to the invention.” Ex. 1001, 4:31-33. And before describing these examples, the Patent states that “[e]xemplary specific forms of the adjusting assembly 18 will now be described...[t]hese specific forms are exemplary in nature only.” Ex. 1001, 5:66-6:3.

60. Nor, in my opinion, does the rest of the claim recite sufficient structure for performing the claimed function, as proven by the patent specification. Claim 1

of the DeJule '753 Patent recites “a plurality of gears that cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position.” Ex. 1001, 12:41-43. But a plurality of gears alone cannot provide the function of “configured to [] increase a resistance to changing of the angular orientation of the backrest from the starting angular position.” Ex. 1001, 12:44-45. Rather, at least two additional structures are necessary to provide this function: structures that I will refer to as (A) a tilting spring and (B) a weighing spring.

61. As discussed above in Section VI.B, the mechanisms disclosed in the DeJule '753 Patent purport to vary the amount of force required to tilt a backrest in response to a user sitting in a chair by shortening the effective length of a leaf spring that supports the backrest. Thus, at the very least, the “adjusting assembly” must include the spring that variably resists tilting of the backrest—i.e., the tilting spring. In Figure 3 of the DeJule '753 Patent, the tilting spring takes the form of leaf spring 19, annotated in blue below. Ex. 1001, Fig. 3.

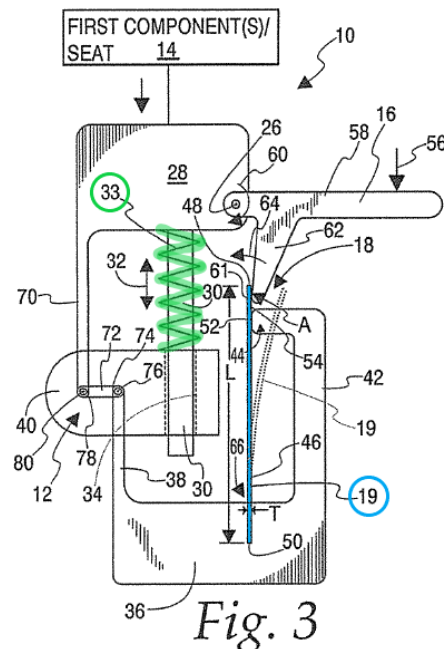


Ex. 1001, Fig. 3 (annotated).

62. The DeJule '753 Patent also discloses alternative structures for providing the tilting spring function, including the use of multiple leaf springs (Figs. 10, 12), coil springs (Figs. 14, 15), torsion component (Fig. 16), and leaf springs with supported ends (Fig. 17).

63. In addition, the “adjusting assembly” must be able to vary the resistance provided by the tilting spring in response to the weight of a user. To do so, as discussed above (§ 34), the DeJule '753 Patent discloses the use of a coil spring 33 that compresses in proportion to the weight of the user—i.e., the weighing spring. Ex. 1001, 6:65-7:1. Thus, as discussed above, when the user sits on the seat, the seat—along with the point on leaf spring 19 against which the backrest bears—move down against the force of the coil spring 33, thereby shortening the effective length

of leaf spring 19. Ex. 1001, 7:1-3. I have colored the coil spring 33 in green below, in addition to the leaf spring 19, which is colored in blue. Ex. 1001, Fig. 3.



Ex. 1001, Fig. 3 (annotated).

64. As shown in the Figures of the DeJule '753 Patent, the only structure disclosed for providing the weighing spring function is a coil spring. Ex. 1001, Figs. 3, 7-10, 13-15.

65. In my opinion, the claimed “adjusting assembly” could not provide the claimed functionality without at least these two structures. And because these structures are not both recited in claim 1 of the DeJule '753 Patent, or in any of the other claims, it is my opinion that “adjusting assembly” is properly construed as an MPF claim term, even though it does not use the word “means.”

66. As for the correct construction of “adjusting assembly,” in my opinion, the function is that which is recited in the claim itself: “configured to [] increase a resistance to changing of the angular orientation of the back rest from the starting angular position.”

67. As for the corresponding structure, my analysis is very similar to my analysis of whether “adjusting assembly” should be construed as an MPF term. In particular, as I discussed above, the specification recites the structures that, at minimum, provide the claimed functionality: namely, (1) a weighing spring in the form of a coil spring; and (2) a tilting spring in the form of a leaf spring, a coil spring, or a torsion component. While there are other structures disclosed in the claims and specification of the DeJule ’753 Patent that enable or facilitate the claimed function, such as link 72 and the claimed plurality of gears, none of these additional structures are strictly necessary for the claimed functionality. For example, DeJule ’753 Patent Figures 3, 16, and 17 depict adjusting assemblies that do not also use a plurality of gears.

68. In sum, in my opinion, “adjusting assembly” is properly construed as an MPF claim term. The function of “adjusting assembly” is “configured to [] increase a resistance to changing of the angular orientation of the back rest from the starting angular position.” And the corresponding structures in the DeJule ’753 Patent for performing that function are (1) tilting springs in the form of leaf springs,

coil springs, or torsion components, and (2) weighing springs in the form of coil springs.

2. “a seat mounted on the frame”

69. It is my opinion that “a seat mounted on the frame” as used in DeJule ’753 Patent claim 1, should be construed as “a seat mounted directly or indirectly on the frame.” This construction is consistent with the DeJule ’753 Patent, which makes clear that “mounted on” is not limited to direct mounting or attaching.

70. First, claim 8 of the DeJule ’753 Patent depends directly from claim 1 and recites “wherein the back rest is mounted directly to the seat.” Ex. 1001, 13:18-20. A PHOSITA would understand from this that “mounted” as used in the DeJule ’753 Patent includes direct and indirect mounting. If “mounted” only meant direct mounting, there would be no reason for claim 8 to specify that “the back rest is mounted *directly* to the seat.” In other words, if “mounted” meant “mounted directly” in the context of the DeJule ’753 Patent, claim 8 would have simply recited “the back rest is mounted to the seat.” But it did not; it specified that the “back rest is mounted directly to the seat.”

71. Second, I understand that a claim construction that excludes all embodiments disclosed in a patent’s specification is generally incorrect. In my opinion, the DeJule ’753 Patent does not disclose an embodiment in which a seat is mounted directly on a frame. Rather, there are always intervening components that

come between the seat and the frame. *E.g.* Ex. 1001, Figs. 3-17. In other words, the DeJule '753 Patent only discloses seats that are mounted indirectly on frames. This further supports my conclusion that, in the context of the DeJule '753 Patent, a PHOSITA would understand “a seat mounted on the frame” to mean “a seat mounted directly or indirectly on the frame.”

VII. SUMMARY OF OPINIONS WITH RESPECT TO THE DEJULE '753 PATENT

72. I understand that the Petitioner is requesting *inter partes* review (“IPR”) of claims 1-22 of the DeJule '753 Patent under the grounds set forth in the table below, based on the listed references.

Ground	DeJule '753 Patent Claims	Basis for Invalidity
I	1-6, 8-14, 18-22	Anticipated by Schmitz '637
II	1, 2, 3, 7, 15, 17	Anticipated by Takamatsu '372
III	16	Anticipated by Schmitz '738

73. As discussed above, I understand Schmitz '637 and Takamatsu '372 are prior art to all claims of the DeJule '753 Patent because they were published before the earliest filing date to which the DeJule '753 Patent claims priority (February 11, 2015).

74. In addition, it is my opinion that Schmitz '738 is prior art to at least claim 16 of the DeJule '753 Patent. As discussed above, it is my opinion that the earliest possible filing date to which claim 16 is entitled to claim priority is February 10, 2016, the filing date of the '735 Application. Further, I understand that a U.S. Patent can be prior art to a challenged claim if the U.S. Patent claims priority to an earlier-filed foreign application that describes the subject matter of the U.S. Patent that invalidates the challenged claim. The Schmitz '738 reference claims priority to two German patent filings made before February 10, 2016: DE 10 2015 003 156,

filed March 14, 2015 (Ex. 1010, “DE’156”) and DE 10 2015 119 689, filed November 13, 2015.

75. The written description of DE’156 is in German. However, I have reviewed the figures of DE’156, and I have reviewed the certified English translation of DE’156 submitted with the Petition as Exhibit 1011. In my opinion, based on my review of these materials, DE’156 describes the subject matter of Schmitz ’738 on which I rely below to conclude that Schmitz ’738 anticipates claim 16 of the DeJule ’753 Patent. In Appendix A to this declaration, I have included a chart showing where in the figures and translated written description of DE’156 a PHOSITA would find support for the disclosure of the Schmitz ’738 reference.

76. Thus, in my opinion, Schmitz ’738 is prior art to at least claim 16 of the DeJule ’753 Patent.

77. The claim listing appendix to the Petition includes identifiers (*e.g.*, “[1.a],” “[1.b],” etc.) for the elements of the independent claim. Claim language discussed below is typically indicated in italics.

78. As set forth in further detail below, it is my opinion that the claims of the DeJule ’753 Patent are invalid under the grounds listed above. I reserve the right to supplement my opinions in the future to respond to any arguments that Patent Owner or its expert(s) may raise and to take into account new information as it becomes available to me.

VIII. SCHMITZ '637 ANTICIPATES CLAIMS 1-6, 8-14, AND 18-22

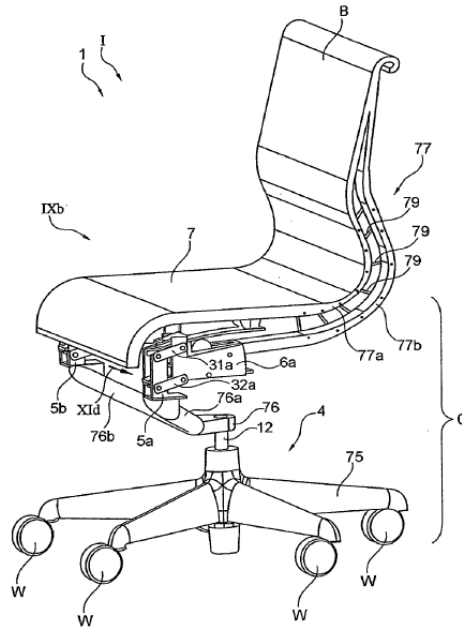
79. For reasons that I will address in more detail below, it is my opinion that Schmitz '637 anticipates claims 1-6, 8-14, and 18-22.

A. INDEPENDENT CLAIM 1

1. [1] A reconfigurable apparatus for seating a user, the reconfigurable apparatus comprising:

80. In my opinion, Schmitz '637 discloses a reconfigurable apparatus for seating a user.

81. Schmitz '637 states that the object of its invention is “to develop a body support structure, such as a piece of furniture, in particular a piece of furniture for sitting on, in which a spring mechanism which supports a reclining of a person can be adapted to the weight of the person.” Ex. 1006, ¶ [0004]. Figures 7a, below, shows an example reconfigurable apparatus for seating a user as disclosed by Schmitz '637. Ex. 1006, Fig. 7a.

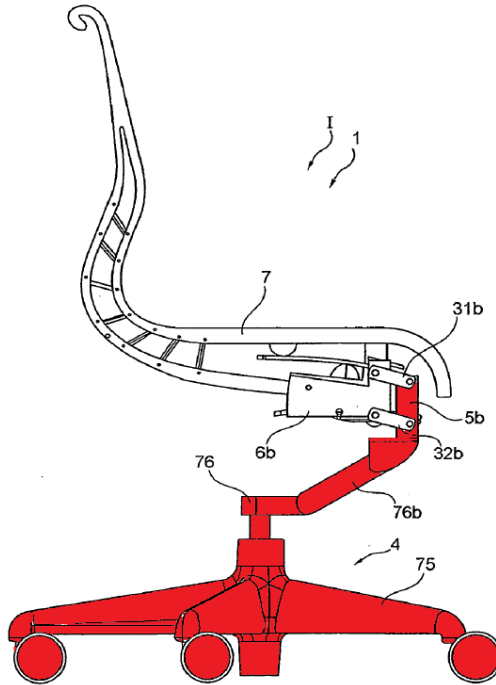


Ex. 1006, Fig. 7a.

2. [1.a] a frame,

82. In my opinion, Schmitz '637 discloses a frame.

83. Schmitz '637 discloses a reconfigurable apparatus for seating a user that “comprises a base C and a seat 7” wherein “[t]he base C comprises a lower part 4, a two-part middle part 5a, 5b and a two-part upper part 6a, 6b.” Ex. 1006, ¶ [0068]. In my opinion, the “lower part 4” and the “middle parts 5a and 5b” comprise the frame of the reconfigurable apparatus, as claimed. Figure 7b, annotated below, shows the frame of the reconfigurable apparatus in red. Ex. 1006, Fig. 7b.



Ex. 1006, Fig. 7b (annotated).

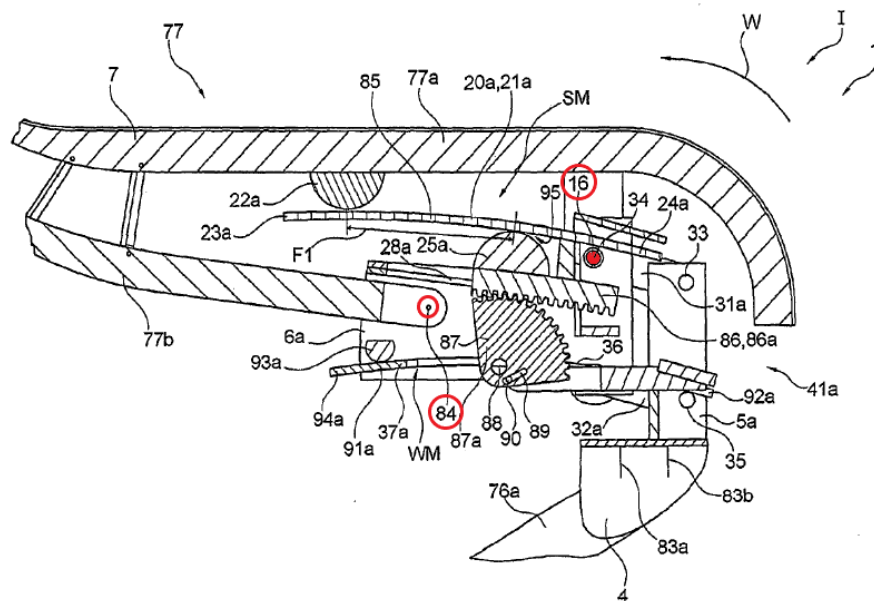
3. **[1.b] a seat mounted on the frame and movable relative to the frame between: a) a first position in which the seat resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat,**

84. In my opinion, Schmitz '637 discloses a seat mounted on the frame and movable relative to the frame between: a) a first position in which the seat resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat.

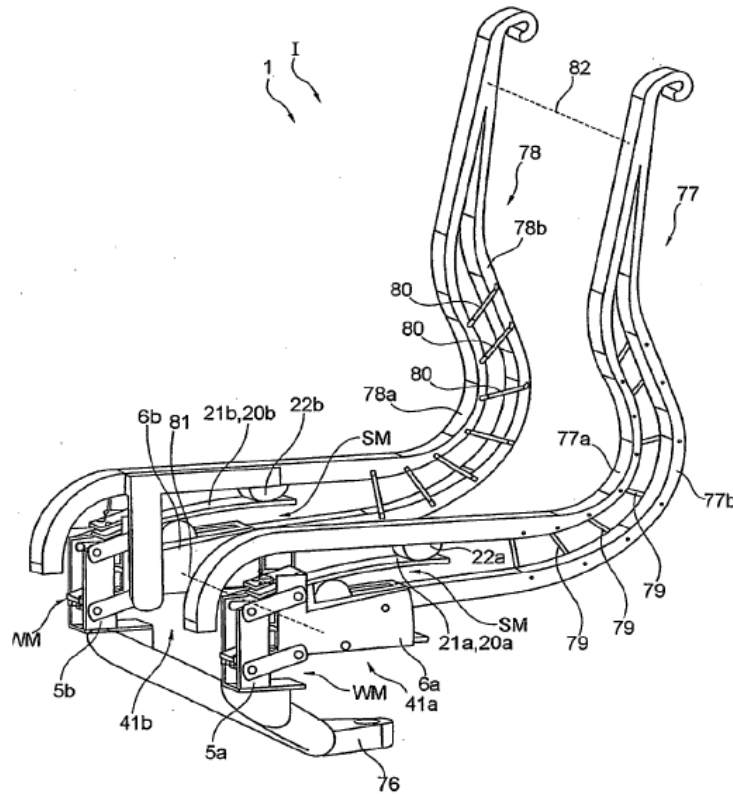
85. Schmitz '637 discloses a "seat 7." Ex. 1006, ¶ [0068]. Schmitz explains that the "seat 7 comprises a right carrier 77 and a left carrier 78" that "have in each case an upper leg 77a and 78a and a lower leg 77b, 78b." *Id.*

86. Schmitz '637 discloses that the “seat 7” is mounted on the frame. As discussed above in Section VI.D.2, it is my opinion that a PHOSITA would understand “a seat mounted on the frame” to mean “a seat mounted directly or indirectly on the frame.”

87. Schmitz '637 describes that the “two upper parts 6a, 6b” of base C “carry the seat 7.” Ex. 1006, ¶ [0068]. To that end, Schmitz '637 describes that the “seat 7 is articulated rotatably on the upper part 6a via two axes of rotation 16 and 84” and that the “seat 7 is articulated at the axis of rotation 16 via the upper leg 77a of the carrier 77 and at the axis of rotation 84 via the lower leg 77b of the carrier 77.” Ex. 1006, ¶ [0071]. Figure 7d, annotated below to identify the axes of rotation in red, shows this connection. Ex. 1006, Fig. 7d; *see id.*, Fig. 7c.



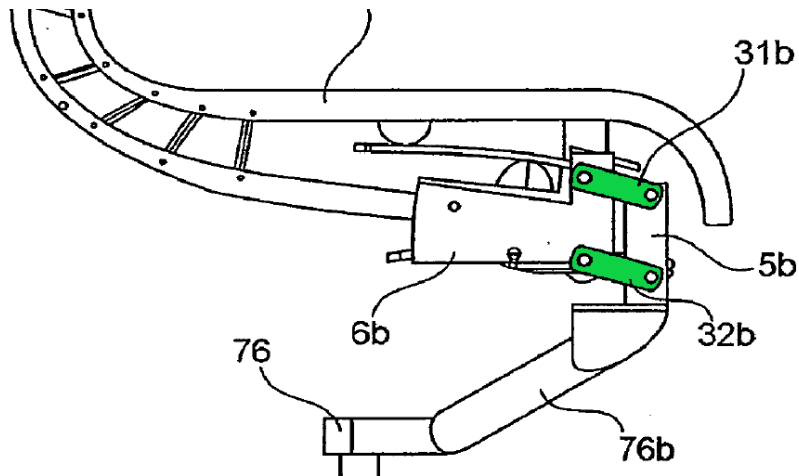
Ex. 1006, Fig. 7d (annotated).



Ex. 1006, Fig. 7c.

89. Upper parts 6a and 6b, in turn, are articulated on middle parts 5a and 5b. Schmitz '637 explains that “upper part 6a is articulated movably upward and downward on the middle part 5a via the parallel arms 31a, 32a which are mounted rotatably with axes of rotation 33 to 36 on the upper part 6a and the middle part 5a respectively.” Ex. 1006, ¶ [0071].

90. Similarly, a PHOSITA would understand upper part 6b is articulated movably upward and downward on the middle part 5b in the same manner via parallel arms 31b and 32b. Figure 7b, below, shows this connection, including the “parallel arms 31b and 32b” in green. Ex. 1006, Fig. 7b.



Ex. 1006, Fig. 7b (annotated).

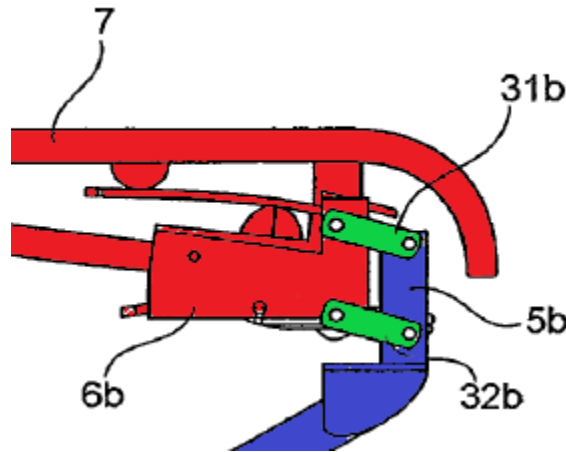
91. In sum, seat 7 is mounted to middle parts 5a, 5b (part of the claimed frame) via upper parts 6a, 6b and arms 31a, 32a, 31b, 32b. Thus, in my opinion, Schmitz '637 discloses “a seat mounted on the frame.”

92. Further, Schmitz '637 discloses a seat movable relative to the frame between: a) a first position in which the seat resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat.

93. First, Schmitz '637 teaches that the seat is movable relative to the frame. Schmitz '637 explains that “the upper part 6,” to which the seat 7 is attached, is “articulated,” or movable, “upward and downward” on the “the middle part 5,” which is a part of the frame. Ex. 1006, ¶ [0071]. And, as described above (¶ 89), the seat is movable relative to the frame “via the parallel arms 31a, 32a which are mounted...on the upper part 6a and the middle part 5a.” Ex. 1006, ¶ [0071]. Fig. 7b,

below, shows the seat and supporting components in red, the frame in blue, and the “parallel arms 31” in green, which allow the seat to be movable relative to the frame.

Ex. 1006, Fig. 7b.



Ex. 1006, Fig. 7b (annotated).

94. Second, Schmitz '637 discloses that the seat is movable relative to the frame between a) a first position in which the seat resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat.

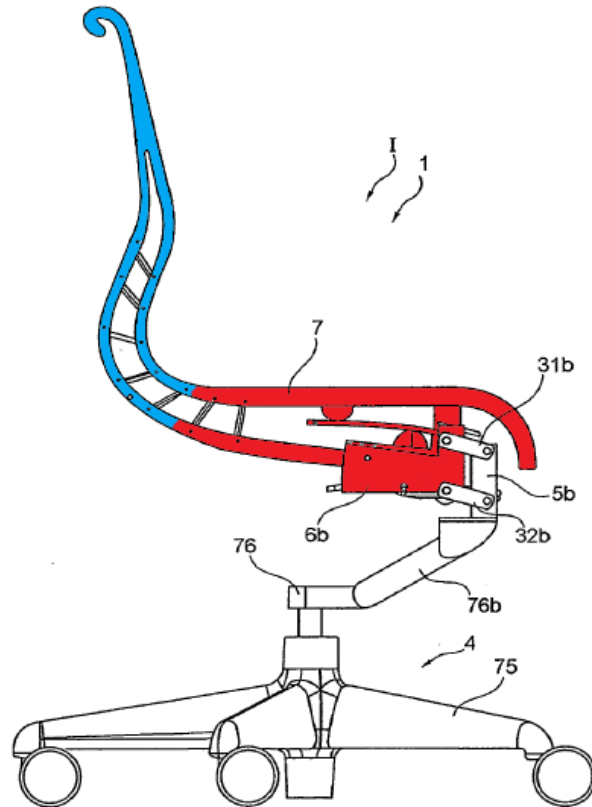
95. Schmitz '637 explains that “upper part 6a is...supported via a [] spring element 37a,” which is “designed as a leaf spring 91a” that is “held with a tension end 92a”—i.e., anchored—“in the middle part 5a.” Ex. 1006, ¶ [0071]. Upper part 6a, for its part, “acts with a bolt 93a on a free end 94a of the leaf spring 91a.” *Id.* Fig. 7d, below, shows the leaf spring 91a in red and the bolt 93a in green. Ex. 1006, Fig. 7d.

in which the seat resides with no user sitting on the seat and a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat.

4. [1.c] a back rest against which a user sitting on the seat can bear his/her back to produce a leaning force that changes an angular orientation of the back rest relative to the frame

98. In my opinion, Schmitz '637 discloses a backrest against which a user sitting on the seat can bear his/her back to produce a leaning force that changes an angular orientation of the back rest relative to the frame.

99. First, Schmitz '637 discloses a backrest. Schmitz '637 explains that its “seat” comprises “a seat part and a back part.” Ex. 1006, ¶ [0006]. As shown in Figure 7b, below, seat 7 includes a seat part in red, and a back part in blue, though these parts are not assigned their own numerical identifiers. Ex. 1006, Fig. 7b.



Ex. 1006, Fig. 7b (annotated).

100. Thus, a PHOSITA would understand that references in Schmitz '637 to “seat 7” refer to both the seat part and the back part of seat 7.

101. Second, Schmitz '637 discloses that a user sitting on the seat can bear his/her back against the backrest to produce a leaning force that changes an angular orientation of the backrest relative to the frame. Schmitz '637 explains that “the seat 7,” which includes a back part, is “articulated rotatably on the upper part 6a via two axes of rotation 16 and 84.” Ex. 1006, ¶ [0071]. Thus, a PHOSITA would understand from this rotatable connection that seat 7, along with its back part, are capable of rotation relative to the frame.

102. Further, Schmitz '637 teaches that “the seat 7” is “supported [] in a direction of rotation w.” Ex. 1006, ¶ [0071]. More specifically, “spring mechanisms SM,” which are designed as “leaf springs 21a, 21b,” Ex. 1006, ¶ [0070], support the seat (including the back part) against rotation thereof: “reaction forces of the spring mechanisms SM” support “against an inclination movement of the seat 7,” including the back part, “in the direction of rotation w,” *id.*, ¶ [0071]; *see also id.*, ¶ [0004] (“a spring mechanism...supports a reclining of a person”); *id.*, ¶ [0006] (“an inclination of the seat about at least one axis of rotation being supported by at least one spring mechanism.”).

103. A PHOSITA would understand from this disclosure that seat 7, including the back part of seat 7, can rotate in response to a leaning force from a user against the resisting force of spring mechanisms SM. Thus, in my opinion, Schmitz '637 discloses “a back rest against which a user sitting on the seat can bear his/her back to produce a leaning force that changes an angular orientation of the back rest relative to the frame,” as claimed.

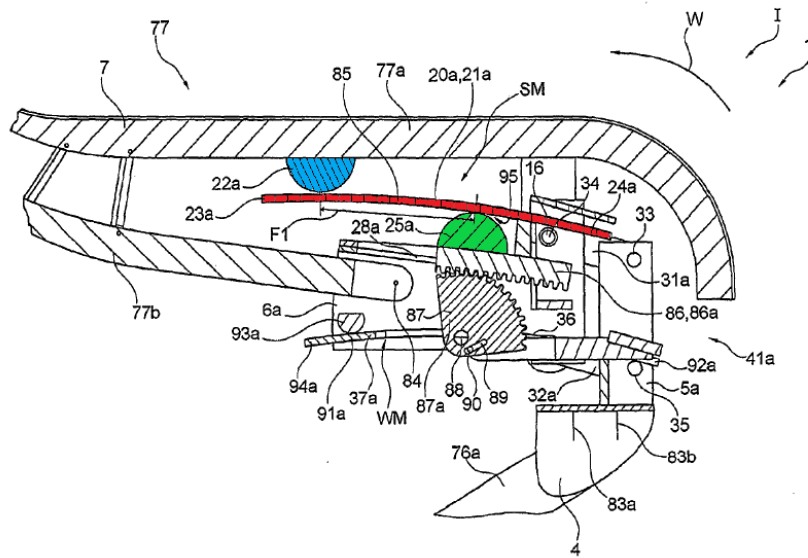
- 5. [1.d] the apparatus configured so that a first leaning force is required to be applied to the back rest to change the angular orientation of the back rest from a starting angular position relative to the frame with no user sitting in the seat;**

104. In my opinion, Schmitz '637 discloses the apparatus configured so that a first leaning force is required to be applied to the backrest to change the angular

orientation of the backrest from a starting angular position relative to the frame with no user sitting in the seat.

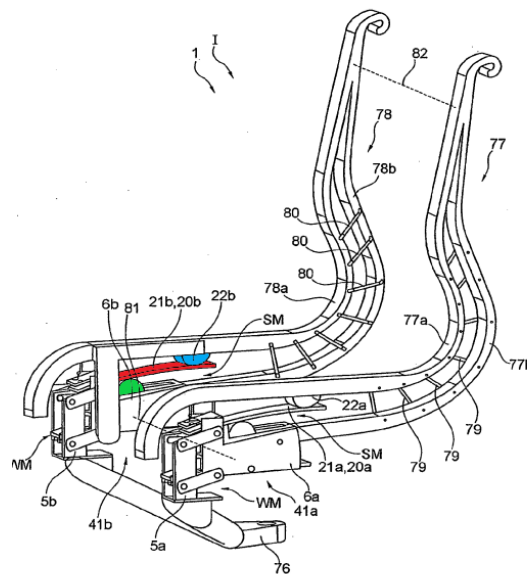
105. As discussed above (¶¶ 102-103) in connection with claim element 1.c, Schmitz '637 discloses that “spring mechanisms SM,” which comprise “leaf springs 21a, 21b” support “against an inclination movement of the seat 7”, which includes the back part. Ex. 1006, ¶ [0070]-[0071]. In particular, in reference to leaf spring 21a, Schmitz '637 explains that leaf spring 21a is “tension-mounted into the upper part 6a” and is “supported in a middle region 85 against the upper part 6a by a support 25a when a person sitting on the seat reclines.” Ex. 1006, ¶ [0071].

106. Seat 7 bears against these leaf springs 21a, 21b via projections 22a, 22b. In particular, Schmitz '637 explains that “upper legs 77a and 78a of the two carriers 77 and 78” of seat 7 “are supported...with projections 22a and 22b on spring elements 20a, 20b,” which are “designed as leaf springs 21a and 21b.” Ex. 1006, ¶ [0070]. And in reference to right carrier 77 of seat 7, Schmitz '637 further explains that “upper leg 77a of the right carrier 77...bears with the projection 22a against a free end 23a of the leaf spring 21a” such that seat 7 is “supported on the first spring element 20a in a direction of rotation w.” Ex. 1006, ¶ [0071]. Fig. 7d, annotated below, shows the leaf spring 21a in red, support 25a in green, and projection 22a in blue. Ex. 1006, Fig. 7d.



Ex. 1006, Fig. 7d (annotated).

107. Further, Fig. 7c, annotated below, shows the corresponding components on left carrier 78: leaf spring 21b in red, support 25b in green, and projection 22b in blue. Ex. 1006, Fig. 7c.



Ex. 1006, Fig. 7c (annotated).

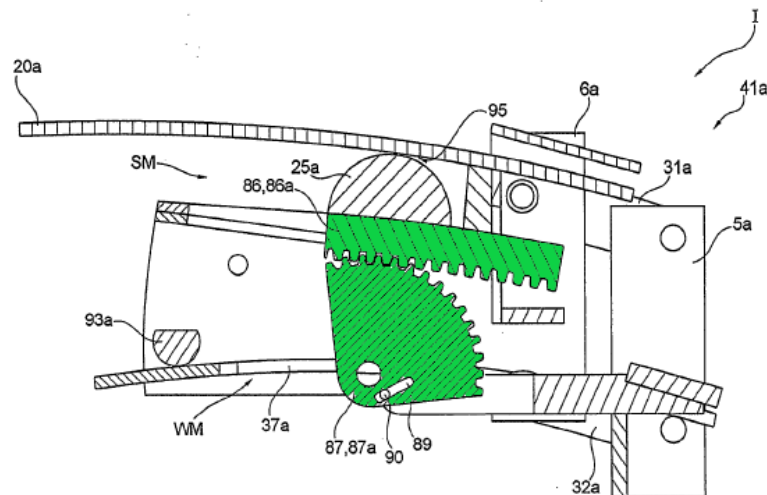
108. A PHOSITA would understand from this arrangement—the pivotal mounting of seat 7 on upper parts 6a, 6b, and the leaf springs 21a, 21b that resist rotation of seat 7—that a “first leaning force” would be required to tilt the backrest with no user sitting in seat 7.

109. Thus, in my opinion, Schmitz ’637 discloses “the apparatus configured so that a first leaning force is required to be applied to the back rest to change the angular orientation of the back rest from a starting angular position relative to the frame with no user sitting in the seat,” as claimed.

6. **[1.e] and an adjusting assembly comprising a plurality of gears that cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position and configured to thereby increase a resistance to changing of the angular orientation of the back rest from the starting angular position,**

110. In my opinion, Schmitz ’637 discloses an adjusting assembly comprising a plurality of gears that cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position and configured to thereby increase a resistance to changing of the angular orientation of the backrest from the starting angular position. It is my opinion that Schmitz ’637 discloses this limitation regardless of whether “adjusting assembly” is construed as a means-plus-function claim limitation.

111. First, Schmitz '637 discloses a plurality of gears that cooperate and move relative to each other. In particular, Schmitz discloses movement converters 41a and 41b that automatically adjust the force required to tilt seat 7, and the backrest thereof, in response to the weight of the user. To that end, in relation to movement converter 41a, Schmitz '637 discloses a “toothed slide 86” that is positioned in a “guide 28a on the upper part 6a.” Ex. 1006, ¶ [0071]. The “toothed slide 86” or “linear/curvilinear rack or gear” cooperates with a “toothed quadrant 87, or rotary gear,” which is rotatably “fastened to the upper part 6a” about “axis of rotation 88.” Ex. 1006, ¶ [0071]. Fig. 7e, annotated below, shows the toothed slide 86 and the toothed quadrant 87 of movement converter 41a in green. Ex. 1006, Fig. 7e; *see id.*, Fig. 7d (highlighting guide 28a in red).



Ex. 1006, Fig. 7e (annotated).

left.” Ex. 1006, ¶ [0071]. Figure 7e, annotated above, shows the plurality of gears, colored in green, in the first (“nonloaded”) position. Ex. 1006, Fig. 7e. Figure 7f, annotated below, shows the plurality of gears, colored in green, in the loaded position, after a user has sat in the seat, thereby causing a rotation of toothed quadrant 87 and a translation of toothed slide 86. Ex. 1006, Fig. 7f.

Ex. 1006, Fig. 7f (annotated).

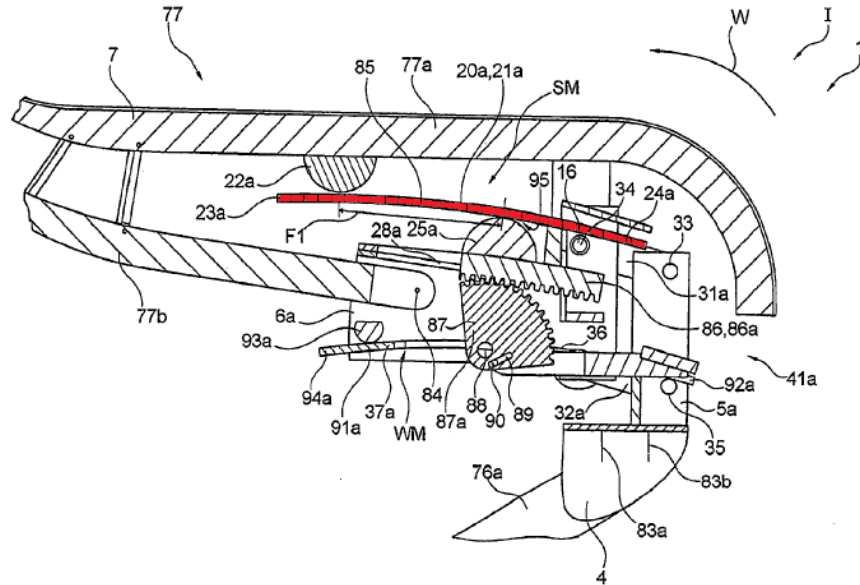
25a...[moves] in the direction of the free end 23a of the leaf spring 21,” wherein “a spacing F1 between the support 25a and the projection 22a is thereby reduced.” Ex. 1006, ¶ [0071]; *see* Fig. 7d. This “reduced spacing,” in turn, “causes a greater supporting of the seat 7”—and the backrest thereof—“against an inclination movement of the seat 7 about the axes of rotation 16.” Ex. 1006, ¶ [0071]. Fig. 7d, annotated below, shows the spacing F1 highlighted in yellow. Ex. 1006, Fig. 7d.

Ex. 1006, Fig. 7d (annotated).

as a function of the weight force with which a person acts on the seat,” is “set by the variation in the spacing between the support 25a and the projection [22a], acting on the leaf spring 21a.” Ex. 1006, ¶ [0073].

116. Schmitz also explains that a “left movement converter 41b (see FIG. 7c) is designed similarly to the right movement converter 41a described above in detail.” Ex. 1006, ¶ [0071]. Thus, Schmitz discloses a pair of gear pluralities configured to cooperate in increasing resistance to changing of the angular orientation of the backrest from the starting angular position.

117. Finally, in the event that “adjusting assembly” is construed as an MPF claim term, it is my opinion that Schmitz ’637 discloses the claimed “adjusting assembly.” As discussed above in Section VI.D.1, it is my opinion that “adjusting assembly” is an MPF claim term. Schmitz ’637 discloses this claim term because it discloses the same or equivalent structures that provide the same function. In particular, as for the weighing spring, Schmitz ’637 discloses a “leaf spring 91a,” Ex. 1006, ¶ [0071], that is equivalent to the coil spring 33 disclosed in the DeJule ’753 Patent. Fig. 7d of Schmitz ’637, annotated below, shows leaf spring 91a in red. Ex. 1006, Fig. 7d.



Ex. 1006, Fig. 7d (annotated).

120. Finally, as discussed above (§§ 114-116), leaf spring 91a and leaf spring 21a cooperate to provide the claimed function of: configured to increase a resistance to changing of the angular orientation of the backrest from the starting angular position. Accordingly, in my opinion, Schmitz '637 discloses the claimed “adjusting assembly.”

7. [1.f] whereby as an incident of a user sitting on the seat a leaning force greater than the first leaning force is required to change the angular position of the back rest from the starting angular position.

121. In my opinion, Schmitz '637 discloses whereby as an incident of a user sitting on the seat a leaning force greater than the first leaning force is required to change the angular position of the backrest from the starting angular position.

122. As discussed above (¶¶ 112-116), Schmitz '637 discloses that as an incident of the seat moving from the first position into the loaded position, which is a user sitting on the seat, there is an increase in the resistance to changing the angular orientation of the seat and thus the backrest thereof. In short, Schmitz '637 explains that “[w]hen the seat 7 is loaded with a weight force”—i.e. a user sitting on the seat—a “spacing F1 between the support 25a,” which supports leaf spring 21a, and “the projection 22a,” the point at which seat 7 bears against leaf spring 21a, “is thereby reduced,” which “causes a greater supporting of the seat 7 against an inclination movement...about the axes of rotation 16.” Ex. 1006, ¶ [0071].

123. Thus, in my opinion, Schmitz '637 discloses “whereby as an incident of a user sitting on the seat a leaning force greater than the first leaning force is required to change the angular position of the backrest from the starting angular position,” as claimed.

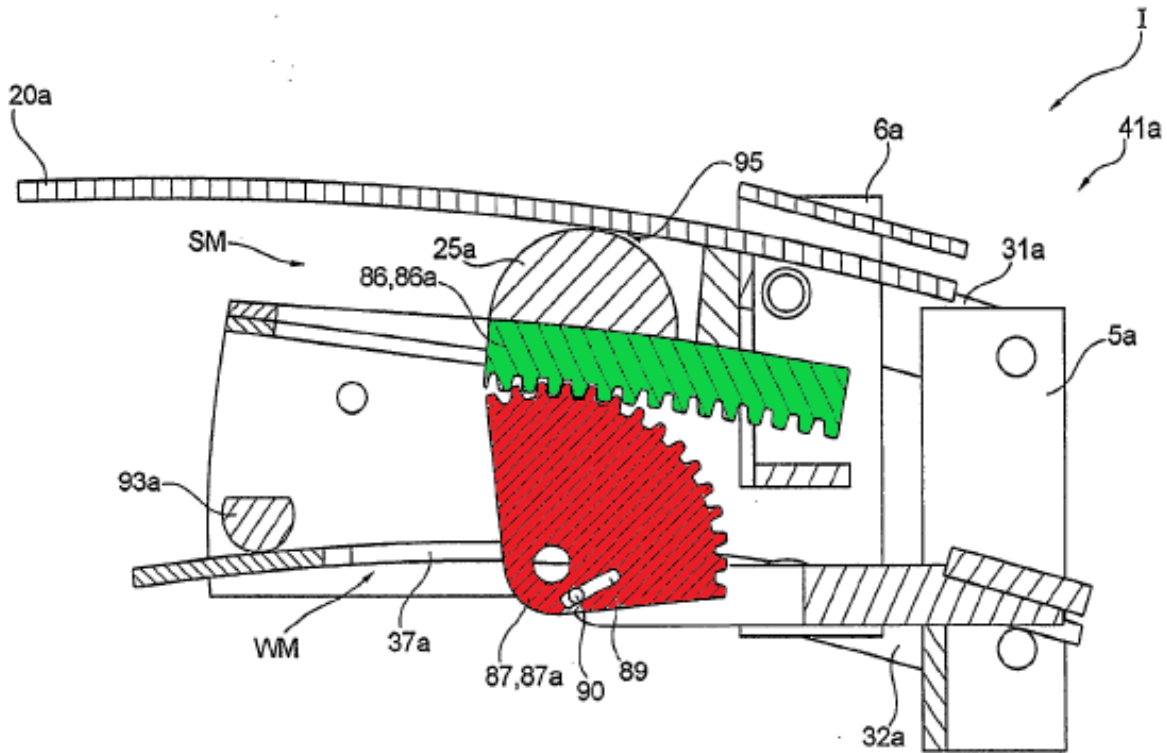
B. DEPENDENT CLAIM 2

The reconfigurable apparatus for seating a user according to claim 1 wherein the plurality of gears comprises a first rack gear and first pinion gear, the first rack gear and first pinion gear cooperating with, and movable relative to, each other as an incident of the seat moving from the first position into the loaded position.

124. As explained in ¶¶ 80-123, Schmitz '637 discloses the limitations of claim 1.

125. In my opinion, Schmitz '637 discloses wherein the plurality of gears comprises a first rack gear and first pinion gear, the first rack gear and first pinion gear cooperating with, and movable relative to, each other as an incident of the seat moving from the first position into the loaded position.

126. As discussed above, Schmitz '637 discloses a “toothed slide 86 or linear/curvilinear rack or gear,” which is the first rack gear, and a “toothed quadrant 87, or rotary gear,” which is the first pinion gear. Ex. 1006, ¶ [0071]. Figure 7e, annotated below, depicts the first rack gear in green, and the first pinion gear in red. Ex. 1006, Fig. 7e.



Ex. 1006, Fig. 7e (annotated).

127. The first rack gear and the first pinion gear cooperate with, and move relative to, each other as an incident of the seat moving from the first position into the loaded position as described above in ¶¶ 112-113 (in relation to claim element 1.e). In particular, Schmitz '637 teaches that “when the seat 7 is loaded with a weight force”—i.e., the seat moving from the first position into the loaded position—“the toothed quadrant 87” is “moved downward,” which “causes a rotation of the toothed quadrant,” during which it “takes up, or meshes with, the toothed slide 86,” which causes the toothed slide 86 to “translate[.]...to the left.” Ex. 1006, ¶ [0071].

C. DEPENDENT CLAIM 3

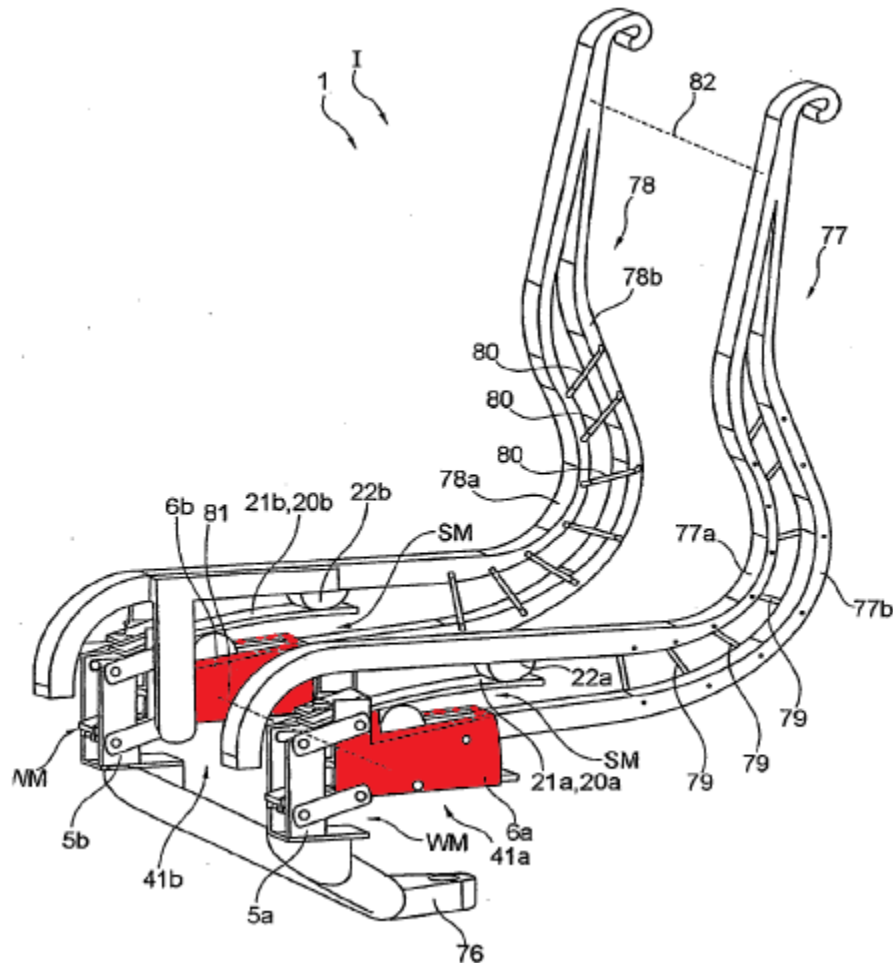
The reconfigurable apparatus for seating a user according to claim 2 wherein the plurality of gears comprises a second rack gear and a second pinion gear, the second rack gear and second pinion gear cooperating with, and movable relative to, each other as an incident of the seat moving from the first position into the loaded position.

128. As explained in ¶¶ 124-127, Schmitz '637 discloses the limitations of claim 2.

129. In my opinion, Schmitz '637 discloses wherein the plurality of gears comprises a second rack gear and a second pinion gear, the second rack gear and second pinion gear cooperating with, and movable relative to, each other as an incident of the seat moving from the first position into the loaded position.

130. Schmitz '637 discloses a second rack gear and second pinion gear identical to the claimed first rack gear and first pinion gear. Schmitz '637 explains that the “toothed slide 86 or linear/curvilinear rack or gear,” and the “toothed quadrant 87, or rotary gear,” discussed above, are part of a “movement converter 41a.” Ex. 1006, ¶ [0071]. Schmitz '637 further discloses that there are two of these components: “a left movement converter 41b (see FIG. 7c) is designed similarly to the right movement converter 41a.” Ex. 1006, ¶ [0071]. Figure 7c, annotated below,

depicts the two upper parts 6a, 6b, which house the two movement converters 41a, 41b in red. Ex. 1006, Fig. 7c.



Ex. 1006, Fig. 7c (annotated).

131. A PHOSITA would understand from this disclosure that there is a second “toothed slide” or “linear/curvilinear rack or gear” and a second “toothed quadrant” or “rotary gear” included in the “left movement converter 41b.”

132. The second rack gear and the second pinion gear cooperate with, and move relative to, each other as an incident of the seat moving from the first position

into the loaded position in the same way that the plurality of gears do as described in ¶¶ 112-113 (as to claim element 1.e) and 124-127 (as to claim 2). In particular, Schmitz '637 teaches that “when the seat 7 is loaded with a weight force”—i.e., the seat moving from the first position into the loaded position—“the toothed quadrant 87” is “moved downward,” which “causes a rotation of the toothed quadrant,” during which it “takes up, or meshes with, the toothed slide 86,” which causes the toothed slide 86 to “translate[]...to the left.” Ex. 1006, ¶ [0071].

D. DEPENDENT CLAIM 4

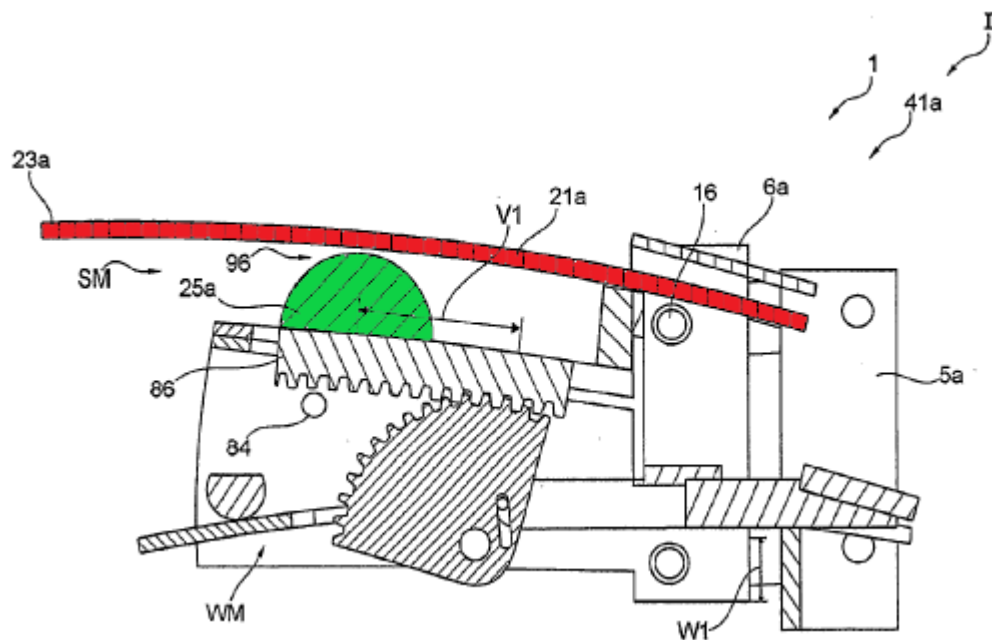
The reconfigurable apparatus according to claim 1 wherein the reconfigurable apparatus comprises an elongate spring bar having a length and that resists changing of the angular orientation of the back rest from the starting position by bending against a fulcrum part.

133. As explained in ¶¶ 80-123, Schmitz '637 discloses the limitations of claim 1.

134. In my opinion, Schmitz '637 discloses wherein the reconfigurable apparatus comprises an elongate spring bar having a length and that resists changing of the angular orientation of the backrest from the starting position by bending against a fulcrum part.

135. Schmitz '637 teaches that “the leaf spring 21a,” which is an elongate spring bar having a length, and “the support 25a,” which is a fulcrum part, “form a

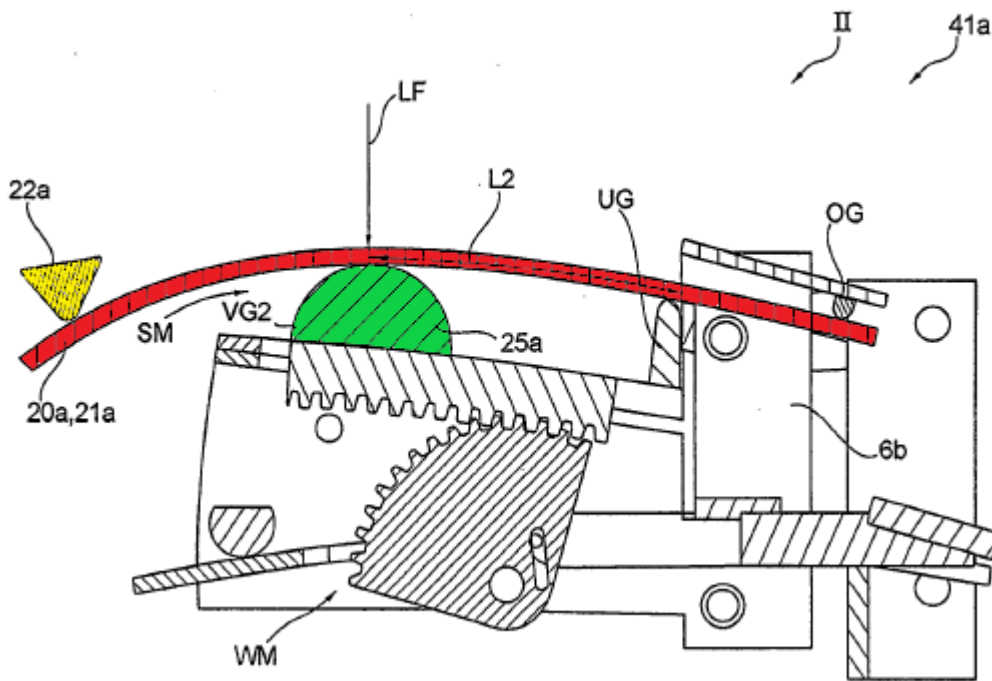
spring mechanism SM.” Ex. 1006, ¶ [0075]. Fig. 7f, below, depicts the elongate spring bar in red and the fulcrum part in green. Ex. 1006, Fig. 7f.



Ex. 1006, Fig. 7f (annotated).

136. Schmitz '637 further teaches that “leaf spring 21a” resists changing of the angular orientation of the backrest from the starting position by bending against “support 25a.” As explained above in Section VIII.A.5, Schmitz '637 explains that “spring mechanisms SM,” which comprise “leaf springs 21a, 21b” support “against an inclination movement of the seat 7”, which includes the back part thereof. Ex. 1006, ¶ [0070]-[0071]. Schmitz '637 further explains that “[a]n operative connection or contact between the support 25a and the leaf spring 21a occurs...when [a] person reclines out of his upright sitting position,” and that the “increased and weight-dependent counterforce is generated...by the leaf spring 21a coming to lie on the

support 25,” and that this contact “leads to an increase in the spring force which acts counter to the seat.” Ex. 1006, ¶ [0074].¹ Fig. 8c, below, depicts the elongate spring bar in red bending against the fulcrum part in green via the force applied by projection 22a in yellow. Ex. 1006, Fig. 8c.



Ex. 1006, Fig. 8c (annotated).

137. Thus, in my opinion, Schmitz '637 discloses “the reconfigurable apparatus according to claim 1 wherein the reconfigurable apparatus comprises an

¹ Paragraph [0074] and Figures 8a-8c describe and depict a version of the mechanism in which the structure has been “modified slightly as compared with Figs. 7a to 7f.” Ex. 1006, ¶ [0074]. But a PHOSITA would understand that these teachings apply equally to the mechanism shown in Figs. 7a-7f. Indeed, the only difference appears to be how the leaf spring 21a is mounted in upper part 6, which would not impact how the mechanism functions.

elongate spring bar having a length and that resists changing of the angular orientation of the back rest from the starting position by bending against a fulcrum part,” as claimed.

E. DEPENDENT CLAIM 5

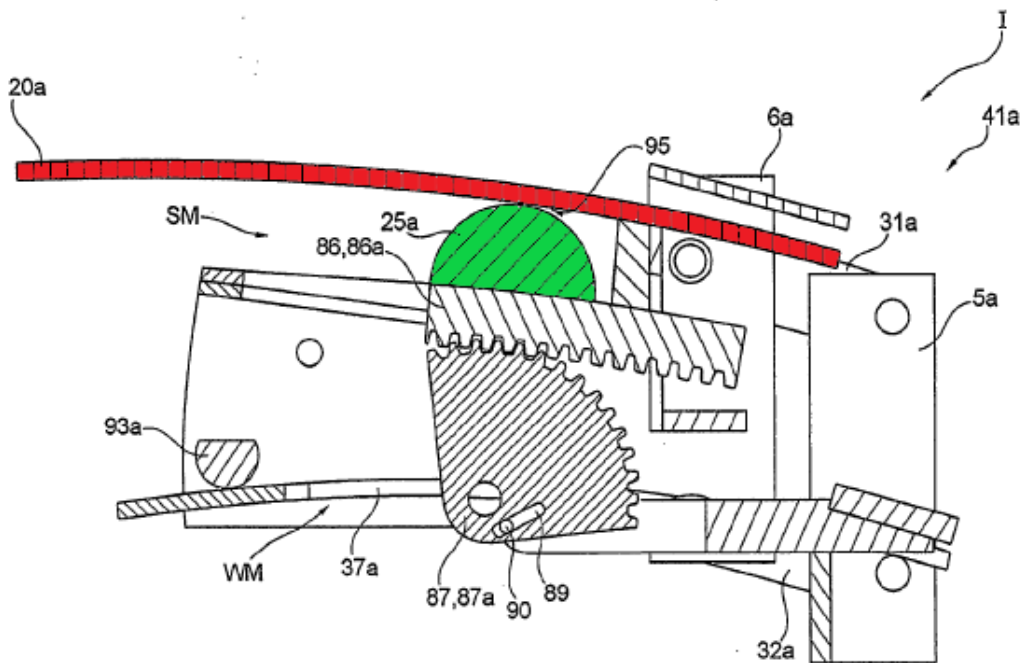
The reconfigurable apparatus for seating a user according to claim 4 wherein as an incident of the seat being changed from the first position into the loaded position the fulcrum part is caused to move along the length of the elongate spring bar so as to thereby increase a force required to bend the elongate spring bar about the fulcrum part and as an incident thereof increase the leaning force required to change the angular orientation of the back rest.

138. As explained in ¶¶ 133-137, Schmitz '637 discloses the limitations of claim 4.

139. In my opinion, Schmitz '637 discloses wherein as an incident of the seat being changed from the first position into the loaded position the fulcrum part is caused to move along the length of the elongate spring bar so as to thereby increase a force required to bend the elongate spring bar about the fulcrum part and as an incident thereof increase the leaning force required to change the angular orientation of the backrest.

140. As explained above, in ¶¶ 114-116 (as to claim element 1.e), Schmitz '637 discloses wherein as an incident of the seat being changed from the first

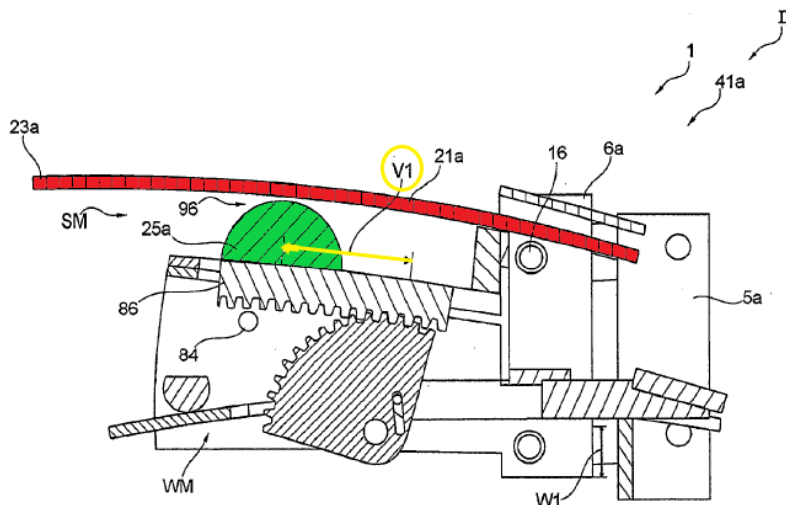
position into the loaded position the fulcrum part is caused to move along the length of the elongate spring bar. Specifically, “when the seat 7 is loaded with a weight force,” which is the seat being changed from the first position into the loaded position, “the toothed quadrant 87...meshes with[] the toothed slide 86 and the support 25a...and transports or translates this support to the left in the direction of the free end 23a of the leaf spring 21.” Ex. 1006, ¶ [0071]. Figure 7e, below, depicts the fulcrum in green, and elongate spring bar in red, in the *first position*. Ex. 1006, Fig. 7e.



Ex. 1006, Fig. 7e (annotated).

141. Figure 7f, below, depicts the fulcrum in green, and elongate spring bar in red, in the *loaded position*, wherein the fulcrum has moved along the length of the

elongate spring bar, a “displacement distance V1,” colored in yellow. Ex. 1006, ¶ [0073]; Fig. 7f.



Ex. 1006, Fig. 7f (annotated).

142. Also, as explained above, in ¶¶ 133-137 (as to claim 4), Schmitz '637 discloses that the fulcrum's movement along the elongated spring bar increases the force required to bend the elongate spring bar about the fulcrum part and to change the angular orientation of the backrest: in particular, “[a] spacing F1 between the support 25a and the projection 22a is thereby reduced,” which “causes a greater supporting of the seat 7”—and the backrest thereof—“against an inclination movement of the seat 7.” Ex. 1006, ¶ [0071].

143. Thus, in my opinion, Schmitz '637 discloses the reconfigurable apparatus for seating a user according to claim 4 wherein as an incident of the seat being changed from the first position into the loaded position the fulcrum part is caused to move along the length of the elongate spring bar so as to thereby increase

a force required to bend the elongate spring bar about the fulcrum part and as an incident thereof increase the leaning force required to change the angular orientation of the backrest.

F. DEPENDENT CLAIM 6

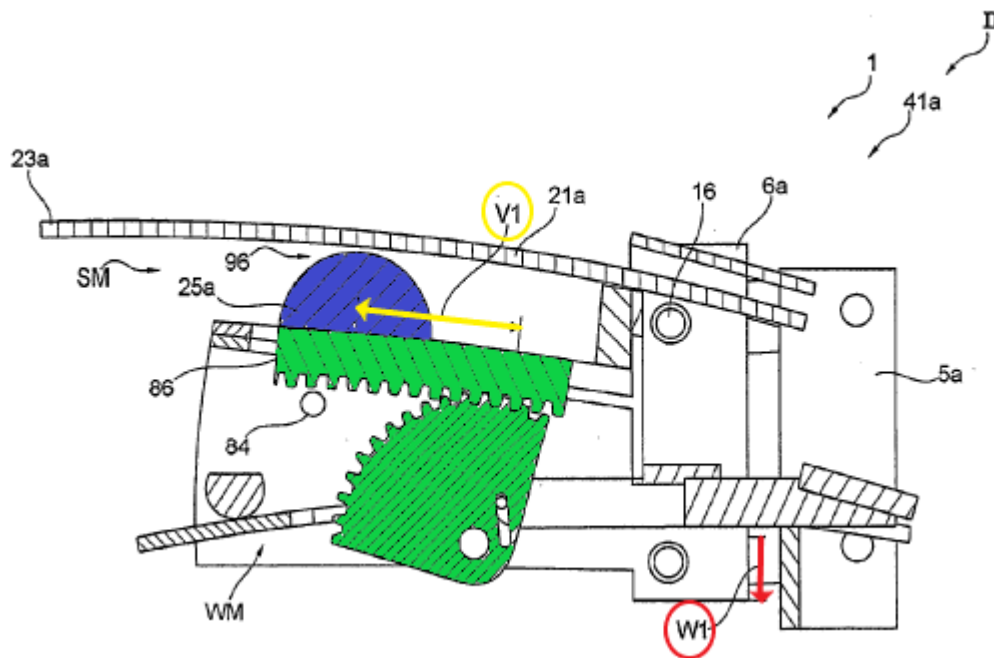
The reconfigurable apparatus for seating a user according to claim 5 wherein the plurality of gears are configured so that the seat moves a first distance between the first and loaded positions and the fulcrum part moves greater than the first distance along the length of the fulcrum bar in response to a same movement of the seat relative to the frame.

144. As explained in ¶¶ 138-143, Schmitz '637 discloses the limitations of claim 5.

145. In my opinion, Schmitz '637 discloses wherein the plurality of gears are configured so that the seat moves a first distance between the first and loaded positions and the fulcrum part moves greater than the first distance along the length of the fulcrum bar in response to a same movement of the seat relative to the frame.

146. In particular, Schmitz '637 discloses that when its seat 7 is “loaded with a weight force of a person sitting,” which is the seat being changed from the first position into the loaded position, upper part 6a, which supports seat 7, moves a “weighing distance W1”—the claimed “first distance”—which causes a “displacement distance V1”—the claimed “greater” distance—of support 25a (the

fulcrum part) along the length of leaf spring 21a. Ex. 1006, ¶ [0073]. Figure 7f, below, depicts the “weighing distance” between the first and loaded position (labeled as W1) in red, the plurality of gears in green, the fulcrum part in blue, and the “displacement distance” (labeled as V1) in yellow. Ex. 1006, Fig. 7f.



Ex. 1006, Fig. 7f (annotated).

147. Schmitz '637 explains that the displacement distance V1 is greater than the weighing distance W1. In particular, Schmitz '637 teaches that a “step-up”—i.e., an increase—“of the weighing movement...thus takes place in the movement converter 41a,” which causes the displacement of support 25a. Ex. 1006, ¶ [0073]. Thus, “even with a small weighing movement, a sensitive setting of the spring mechanism SM can be carried out on account of the step-up.” *Id.* Schmitz '637 states that “ $W1 = 2.5 \times V1$,” Ex. 1006, ¶ [0073], but a PHOSITA would understand from

Figure 7f, annotated above, which depicts V1 as larger than W1, and from the “step-up” language discussed above that this is a typo and, in fact, should read: “ $V1 = 2.5 \times W1$.”

148. Thus, it is my opinion that Schmitz '637 discloses that “the reconfigurable apparatus for seating a user according to claim 5 wherein the plurality of gears are configured so that the seat moves a first distance between the first and loaded positions and the fulcrum part moves greater than the first distance along the length of the fulcrum bar in response to a same movement of the seat relative to the frame.”

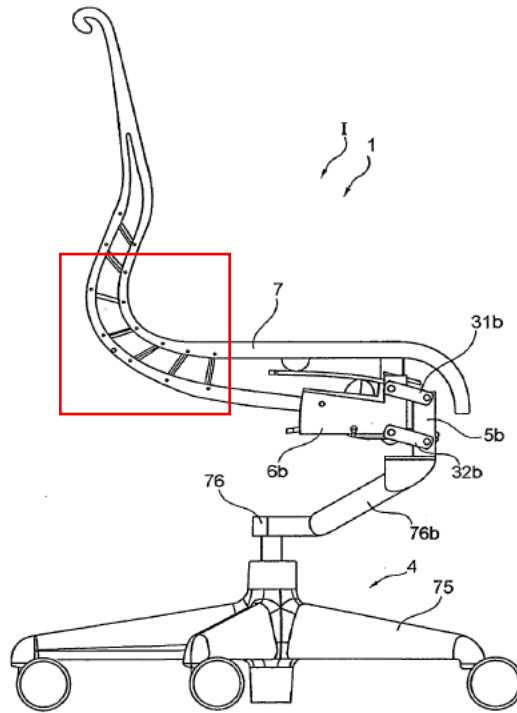
G. DEPENDENT CLAIM 8

The reconfigurable apparatus for seating a user according to claim 1 wherein the back rest is mounted directly to the seat.

149. As explained in ¶¶ 80-123, Schmitz '637 discloses the limitations of claim 1.

150. In my opinion, Schmitz '637 discloses wherein the backrest is mounted directly to the seat.

151. As disclosed in Schmitz '637, the “seat” comprises “a seat part and a back part.” Ex. 1006, ¶ [0006]. As shown in Figure 7b, annotated below, the back part of seat 7 is mounted directly to the seat part. Ex. 1006, Fig. 7b.



Ex. 1006, Fig. 7b (annotated).

H. DEPENDENT CLAIM 9

The reconfigurable apparatus for seating a user according to claim 8 wherein the back rest follows movement of the seat as the seat is changed from the first position into the loaded position.

152. As explained in ¶¶ 149-151, Schmitz '637 discloses the limitations of claim 8.

153. In my opinion, Schmitz '637 discloses wherein the backrest follows movement of the seat as the seat is changed from the first position into the loaded position.

154. A PHOSITA would understand from the disclosure of Schmitz '637 that the back part of the seat 7 will move with the seat part when the seat is changed from the first position into the loaded position, because the back part is mounted directly to the seat part, as explained above, and will move with the seat part when the seat part moves down in response to a user sitting on seat 7.

I. DEPENDENT CLAIM 10

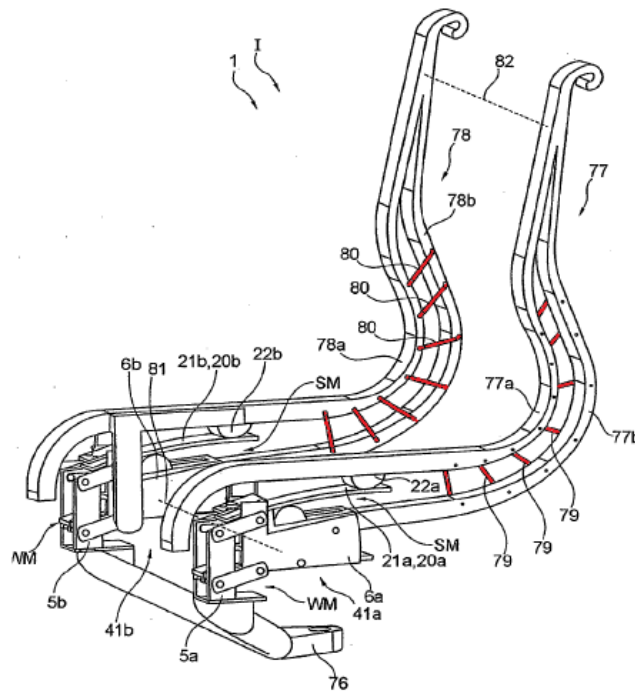
The reconfigurable apparatus for seating a user according to claim 8 wherein the back rest is attached to and movable relative to the seat.

155. As explained in ¶¶ 149-151, Schmitz '637 discloses the limitations of claim 8.

156. In my opinion, Schmitz '637 discloses wherein the backrest is attached to and movable relative to the seat.

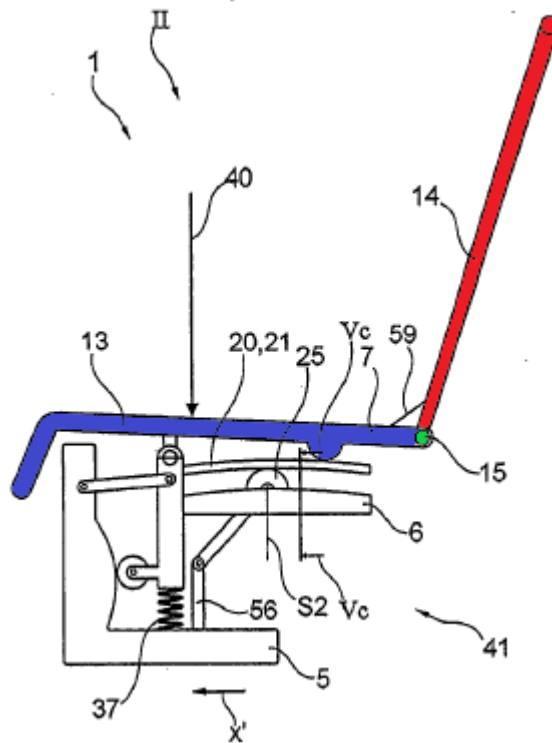
157. As discussed above in Section VIII.G, the back part of seat 7 is attached to the seat part. In addition, the back part of seat 7 is movable relative to the seat part. Schmitz explains that the “seat 7 comprises a right carrier 77 and a left carrier 78” that “have in each case an upper leg 77a and 78a and a lower leg 77b, 78b.” Ex. 1006, ¶ [0068]. Moreover, and as shown in Figure 7c, the seat part and back part include multiple “linking members 79, 80,” annotated in red below, that connect the respective upper legs and lower legs. *Id.* A PHOSITA would understand from this construction that the back part is movable relative to the seat part—in other words,

the connection between the back part and the seat part is a compliant mechanism. Indeed, the use of “linking members” in the region where the back part is joined to the seat part indicates flexibility about this region. Mechanical links, or “linking members,” are used to constrain movement of conjoined components. Here, “linking members 79, 80” constrain movement between 77a and 77b when the back part flexes relative to the seat part. If seat 7 were intended to be static without the ability for the back part to flex relative to the seat part, there would be no need for the right and left carriers to include upper legs and lower legs connected by links; they could simply comprise a single rigid component.



Ex. 1006, Fig. 7c (annotated).

158. As further evidence that a PHOSITA would understand from this construction that the back part of seat 7 is movable relative to the seat part, the Schmitz '936 reference (Ex. 1015) describes a chair of substantially similar construction and explains how the back part of the seat is movable relative to the seat part. Similar to seat 7 of Schmitz '637, the seat of Schmitz '936 is comprised of two "supporting arms 6," each of which is comprised of an upper support 6a and a lower support 6b. Ex. 1015, 8:15-22. Similar to the "linking members 79, 80" of Schmitz '637, the upper support 6a and lower support 6b of each supporting arm 6 are connected by "connecting links 12." *Id.*, 8:24-27. And Schmitz '936 explains that the back part of the chair can flex relative to the seat part such that an "opening angle W6" (shown below) increases from 105 degrees to 130 degrees. *Id.*, 8:40-60; *id.*, Figs. 9, 11. In view of the similarity of the structures, and the overlap in inventors between the two references (*see* Ex. 1015, p. 1), this further supports my opinion that a PHOSITA would understand that the back part of seat 7 of Schmitz '637 is movable relative to the seat part.



Ex. 1006, Fig. 5b (annotated).

160. As discussed above (§ 20), I understand that a prior art reference can anticipate a claim even if it does not expressly spell out all the limitations as arranged or combined in the claim if a PHOSITA, reading the reference, would at once envisage, or immediately envision, the claimed arrangement or combination. Although from a different variant disclosed in Schmitz '637, a PHOSITA would at once envisage that the seat part and back part of Fig. 5b, above, could be used with the assembly shown in Figs. 7a-8c, on which I have otherwise relied. Schmitz '637 discloses only five different types of seat part/back part combinations: (1) as shown in Figs. 2a, 2b, 4a; (2) as shown in Fig. 4b; (3) as shown in Figs. 5a, 5b; (4) as shown in Figs. 7a-7d; and (5) as shown in Figs. 10a, 10b. And Schmitz '637 expressly

teaches that the disclosed “invention is not restricted to exemplary embodiments illustrated or described.” Ex. 1006, ¶ [0085]; *see id.*, ¶ [0061] (“FIGS. 5a and 5b show a further design variant of a piece of furniture 1 according to *the* invention.”) (emphasis added). It would therefore be immediately apparent to a PHOSITA that the seat part/back part combinations disclosed elsewhere in Schmitz ’637, including the seat 7 shown in Fig. 5b, could be used with the assembly depicted in Figures 7a-8c thereof, and it would be well within the skill of a PHOSITA to implement these arrangements.

161. Therefore, in my opinion, Schmitz ’637 anticipates “[t]he reconfigurable apparatus for seating a user according to claim 8 wherein the back rest is attached to and movable relative to the seat.”

J. DEPENDENT CLAIM 11

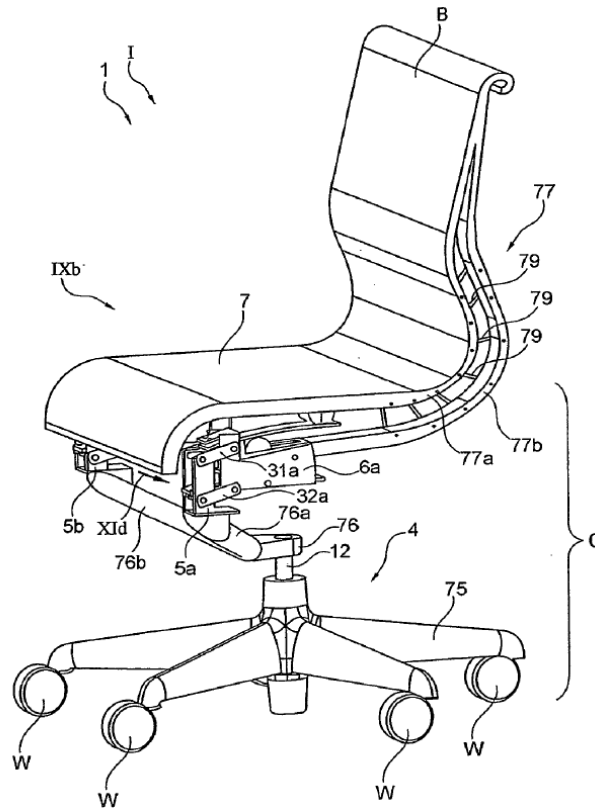
The reconfigurable apparatus for seating a user according to claim 1 wherein the sitting apparatus comprises a chair.

162. As explained in ¶¶ 80-123, Schmitz ’637 discloses the limitations of claim 1.

163. In my opinion, Schmitz ’637 discloses wherein the sitting apparatus comprises a chair.

164. Schmitz ’637 discloses that “the invention relates to a piece of furniture, in particular a body support structure, including for example a piece of furniture for

sitting on or a piece of furniture for lying on, such as, for example, *chair*, armchair, stool, bed or sofa.” Ex. 1006, ¶ [0001]. Figure 7a, below, depicts a chair. Ex. 1006, Fig. 7a.



Ex. 1006, Fig. 7a.

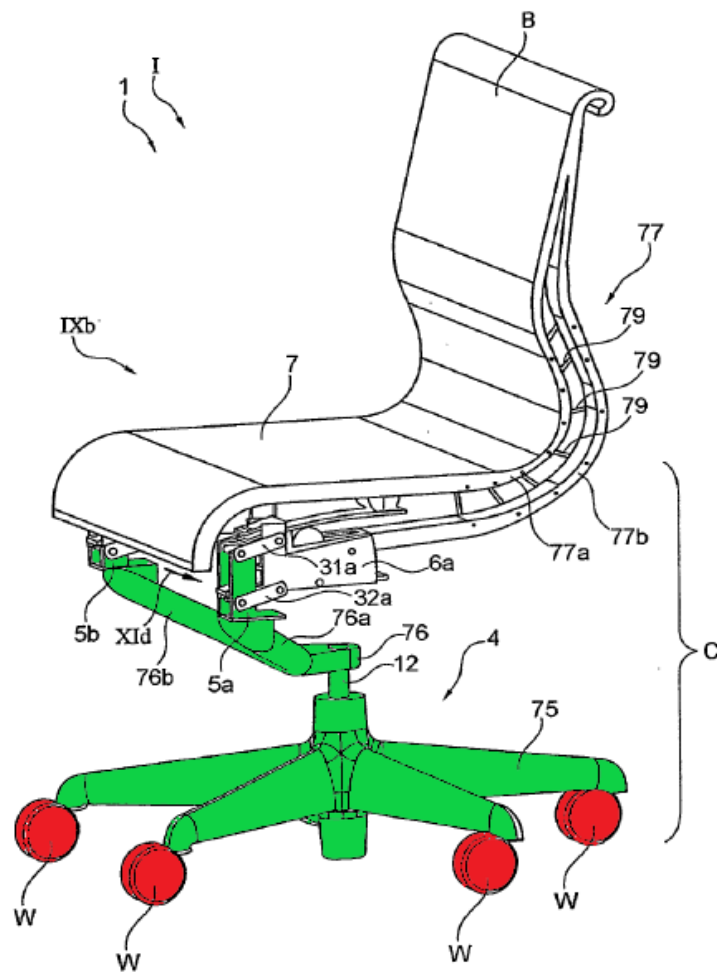
K. DEPENDENT CLAIM 12

The reconfigurable apparatus for seating a user according to claim 11 wherein the frame comprises wheels that support the chair on a subjacent surface.

165. As explained in ¶¶ 162-164, Schmitz '637 discloses the limitations of claim 11.

166. In my opinion, Schmitz '637 discloses wherein the frame comprises wheels that support the chair on a subjacent surface.

167. Schmitz '637 discloses that the reconfigurable apparatus comprises a “base C,” which “comprises a lower part 4,” wherein the “lower part 4” further comprises “a base 75 with wheels W.” Ex. 1006, ¶ [0068]. Figure 7a, below, depicts a frame, colored in green, that comprises wheels, colored in red. Ex. 1006, Fig. 7a.



Ex. 1006, Fig. 7a (annotated).

L. DEPENDENT CLAIM 13

The reconfigurable apparatus for seating a user according to claim 11 wherein the chair comprises a pair of armrests.

168. As explained in ¶¶ 162-164, Schmitz '637 discloses the limitations of claim 11.

169. In my opinion, Schmitz '637 discloses wherein the chair comprises a pair of armrests.

170. First, Schmitz '637 discloses armrests. Schmitz '637 discloses that its invention “relates to a piece of furniture...such as...[an] armchair,” which is a chair with armrests. Ex. 1006, ¶ [0001]. Schmitz '637 further discloses that the benefit of its invention is that “weight force [of a user] can be detected, irrespective of whether it acts on a seat part and/or a back part and/or *armrests* of the seat.” Ex. 1006, ¶ [0013] (emphasis added). Although the chair depicted in Figures 7a-8c of Schmitz '637 is not depicted with armrests, a PHOSITA would at once envisage the use of armrests with this chair.

171. As discussed above (¶ 20), I understand that a prior art reference can anticipate a claim even if it does not expressly spell out all the limitations as arranged or combined in the claim, if a PHOSITA, reading the reference, would at once envisage the claimed arrangement or combination.

172. A PHOSITA would at once envisage that the disclosure of armrests, noted above, could be used with the assembly shown in Figs. 7a-8c, on which I have otherwise relied. Schmitz '637 discloses only two possibilities in this regard: a chair with armrests and a chair without armrests. And Schmitz '637 expressly teaches that the disclosed "invention is not restricted to exemplary embodiments illustrated or described." Ex. 1006, ¶ [0085]. It would therefore be immediately apparent to a PHOSITA that the teaching of armrests in Schmitz '637 could be implemented with the assembly depicted in Figures 7a-8c thereof, and it would be well within the skill of a PHOSITA to implement this arrangement.

173. Indeed, Schmitz '637 expressly suggests the combinability of armrests with the chairs depicted in the Figures of Schmitz '637. None of the chairs depicted include armrests. Ex. 1006, Figs. 1a-10d. Yet Schmitz '637 explains that "[a]ccording to the invention," the "weight force [of a user] can be detected, irrespective of whether it acts on a seat part and/or a back part and/or *armrests* of the seat." Ex. 1006, ¶ [0013]. Such a benefit could not be realized unless armrests were used with the chairs disclosed in Schmitz '637. This would immediately suggest to a PHOSITA that armrests could be implemented with the chairs disclosed and depicted in the figures, including the chair shown in Figure 7a.

174. Therefore, in my opinion, Schmitz '637 discloses “[t]he reconfigurable apparatus for seating a user according to claim 11 wherein the chair comprises a pair of armrests.”

M. DEPENDENT CLAIM 14

The reconfigurable apparatus for seating a user according to claim 11 wherein the chair is a task chair.

175. As explained in ¶¶ 162-164, Schmitz '637 discloses the limitations of claim 11.

176. In my opinion, Schmitz '637 discloses wherein the chair is a task chair.

177. A task chair is a chair designed for a variety of tasks that generally has some amount of adjustability for different users. As the DeJule '753 Patent states, “task chairs are routinely engineered so that a single design can be offered with a substantial amount of versatility in terms of how it can be adapted to size and weight of different individuals so as to optimize function and comfort level.” Ex. 1001, 1:21-25.

178. Chair 1 shown in Fig. 7a of Schmitz '637 is a task chair. It is suitable for a variety of tasks and includes multiple types of adjustment. For example, Schmitz '637 teaches that chair 1 comprises a “height adjustment device 12,” Ex. 1006, ¶ [0068], which allows chair 1 to be adapted to users of different heights. In addition, as explained above in Section VIII.A, chair 1 is adaptable to users of

different weights: in particular, it automatically sets the resistance to the tilting of seat 7 and backrest thereof in proportion to the weight of the user.

179. Thus, in my opinion, Schmitz '637 discloses a task chair.

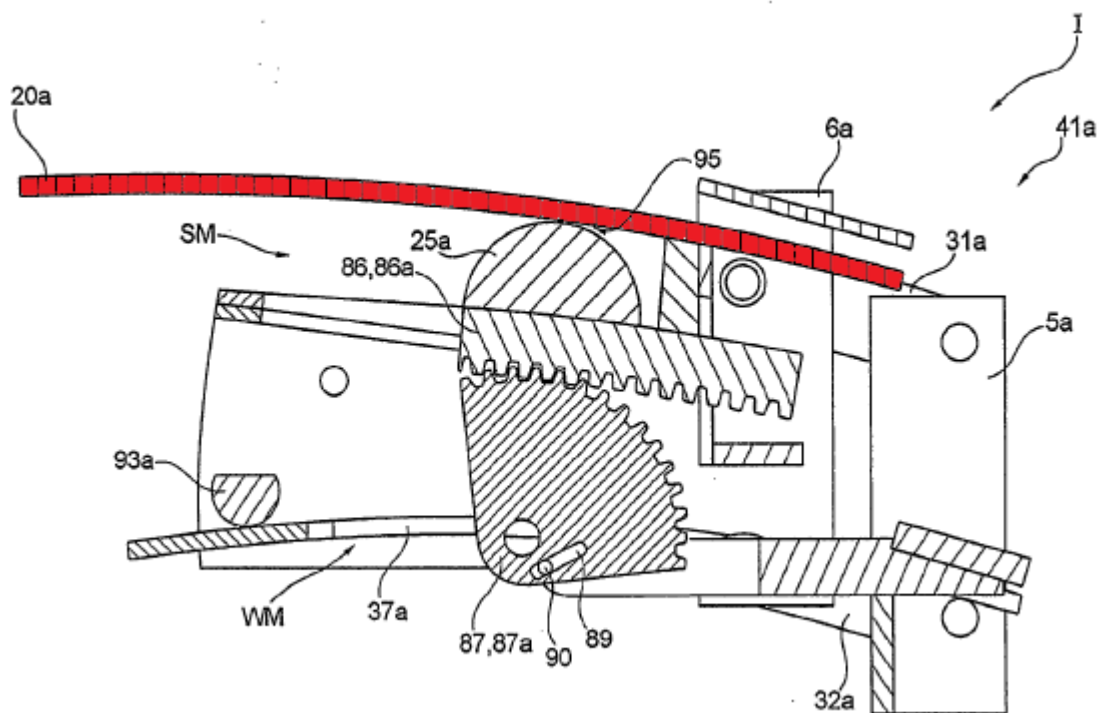
N. DEPENDENT CLAIM 18

The reconfigurable apparatus for seating a user according to claim 1 wherein the reconfigurable apparatus comprises at least one spring bar that is bent under forces applied by a user to the reconfigurable apparatus to resist reconfiguration of a part of the reconfigurable apparatus.

180. As explained in ¶¶ 80-123, Schmitz '637 discloses the limitations of claim 1.

181. In my opinion, Schmitz '637 discloses wherein the reconfigurable apparatus comprises at least one spring bar that is bent under forces applied by a user to the reconfigurable apparatus to resist reconfiguration of a part of the reconfigurable apparatus.

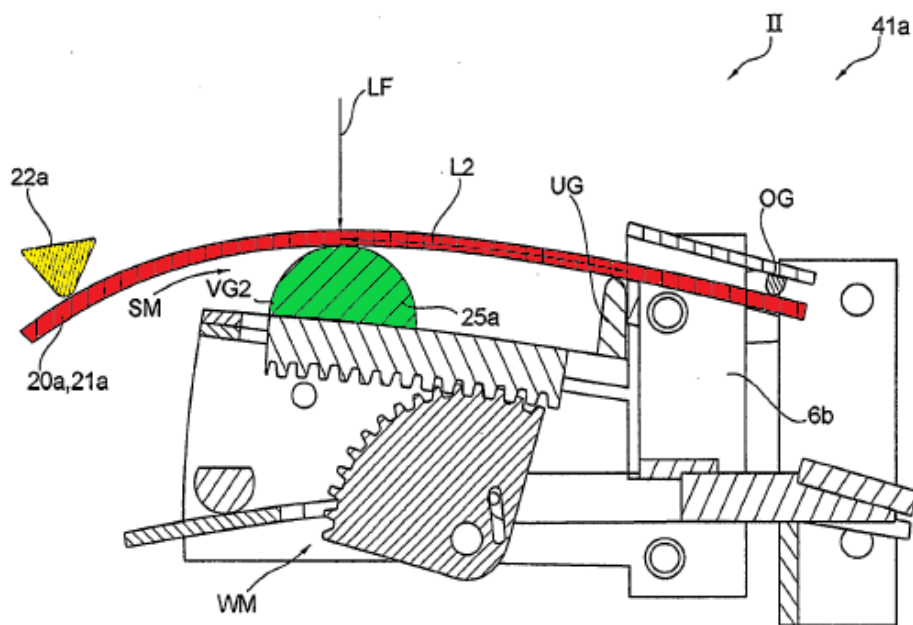
182. Figure 7e, below, depicts the at least one spring bar, “spring element[] 20a,” which is “designed as leaf spring[] 21a,” in red. Ex. 1006, Fig. 7e; *id.*, ¶ [0070].



Ex. 1006, Fig. 7e (annotated).

183. Schmitz '637 discloses that the at least one spring bar is bent under forces applied by a user to the reconfigurable apparatus to resist reconfiguration of a part of the reconfigurable apparatus. Schmitz '637 teaches that "leaf spring 21a" resists changing of the angular orientation of the backrest from the starting position by bending against "support 25a." As explained above in Section VIII.A.5, Schmitz '637 explains that "spring mechanisms SM," which comprise "leaf springs 21a, 21b" support "against an inclination movement of the seat 7", which includes the back part thereof. Ex. 1006, ¶ [0070]-[0071]. Schmitz '637 further explains that "[a]n operative connection or contact between the support 25a and the leaf spring 21a occurs...when [a] person reclines out of his upright sitting position," and that the

“increased and weight-dependent counterforce is generated...by the leaf spring 21a coming to lie on the support 25,” and that this contact “leads to an increase in the spring force which acts counter to the seat.” Ex. 1006, ¶ [0074]. Fig. 8c, below, depicts the elongate spring bar in red, bending against a fulcrum part in green via the force applied by projection 22a in yellow. Ex. 1006, Fig. 8c.



Ex. 1006, Fig. 8c (annotated).

184. Thus, in my opinion, Schmitz '637 discloses “the reconfigurable apparatus for seating a user according to claim 1 wherein the reconfigurable apparatus comprises at least one spring bar that is bent under forces applied by a user to the reconfigurable apparatus to resist reconfiguration of a part of the reconfigurable apparatus.”

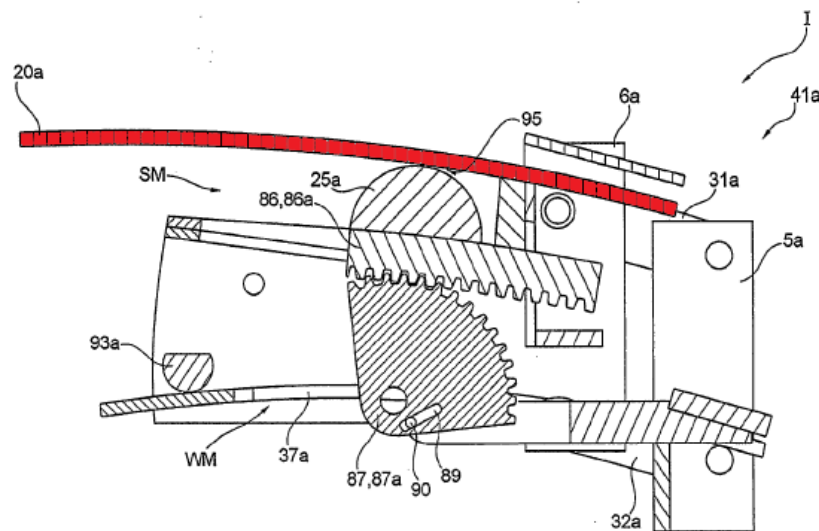
O. DEPENDENT CLAIM 19

The reconfigurable apparatus for seating a user according to claim 18 wherein the at least one spring bar comprises a plurality of spring bars.

185. As explained in ¶¶ 180-184, Schmitz '637 discloses the limitations of claim 18.

186. In my opinion, Schmitz '637 discloses wherein the at least one spring bar comprises a plurality of spring bars.

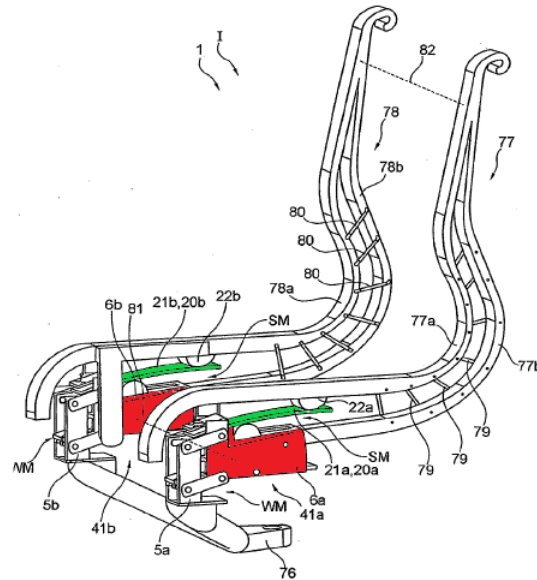
187. Figure 7e, annotated below, shows the at least one spring bar, leaf spring 21a in red, anchored in an upper part 6a. Ex. 1006, Fig. 7e.



Ex. 1006, Fig. 7e (annotated).

188. Schmitz '637 discloses that there are two of each of these components: "[t]he base C comprises...a two-part upper part 6a, 6b," Ex. 1006, ¶ [0068]. Figure 7c, below, depicts the two uppers parts 6a, 6b, colored in red, that anchor the

plurality of spring bars, leaf springs 21a, 21b, colored in green, wherein one upper part includes the at least one spring bar and the other upper part includes another spring bar. Ex. 1006, Fig. 7c.



Ex. 1006, Fig. 7c (annotated).

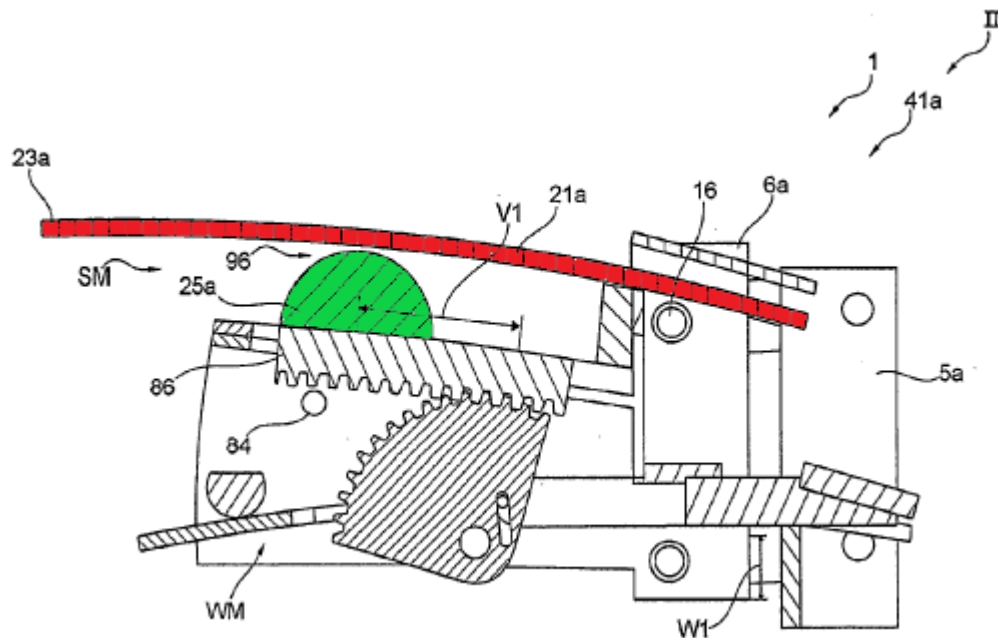
P. DEPENDENT CLAIM 20

The reconfigurable apparatus for seating a user according to claim 19 wherein at least one of the spring bars comprises an elongate spring bar with a length and the elongate spring bar resists reconfiguration of the reconfigurable apparatus by being bent transversely to the length of the elongate spring bar.

189. As explained in ¶¶ 185-188, Schmitz '637 discloses the limitations of claim 19.

190. In my opinion, Schmitz '637 discloses wherein at least one of the spring bars comprises an elongate spring bar with a length and the elongate spring bar resists reconfiguration of the reconfigurable apparatus by being bent transversely to the length of the elongate spring bar.

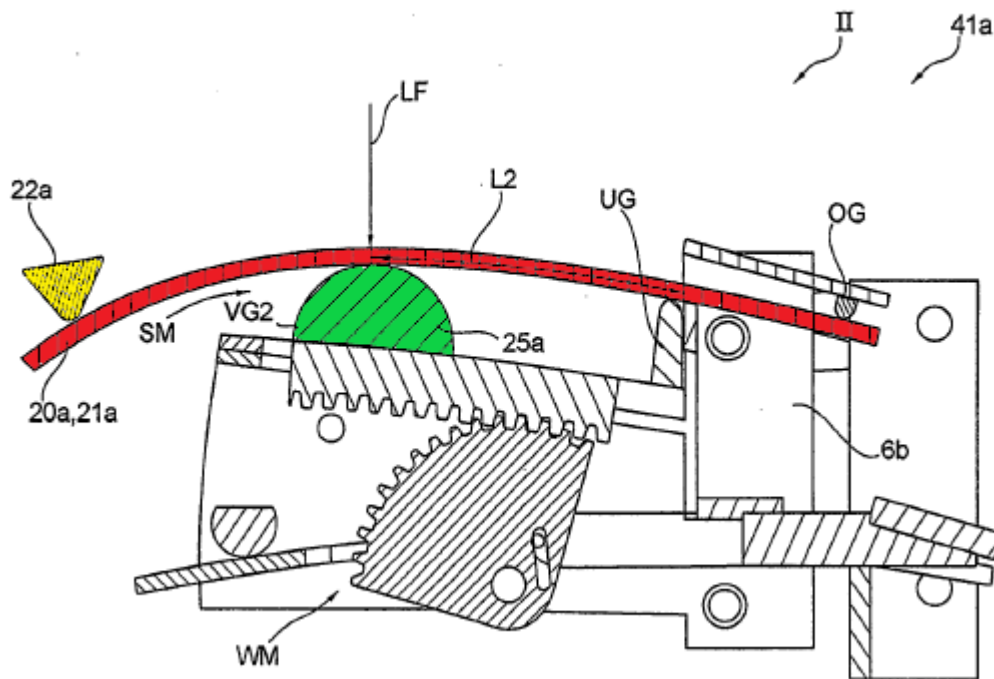
191. Schmitz '637 teaches that “the leaf spring 21a,” which is an elongate spring bar having a length, and “the support 25a,” which is a fulcrum part, “form a spring mechanism SM.” Ex. 1006, ¶ [0071]. Fig. 7f, below, depicts the elongate spring bar in red and the fulcrum part in green. Ex. 1006, Fig. 7f.



Ex. 1006, Fig. 7f (annotated).

192. Schmitz '637 further teaches that “leaf spring 21a” resists reconfiguration of the reconfigurable apparatus by being bent transversely to its length. As explained above in Section VIII.A.5, Schmitz '637 explains that “spring

mechanisms SM,” which comprise “leaf springs 21a, 21b” support “against an inclination movement of the seat 7”, which includes the back part thereof. Ex. 1006, ¶ [0070]-[0071]. Schmitz '637 further explains that “[a]n operative connection or contact between the support 25a and the leaf spring 21a occurs...when [a] person reclines out of his upright sitting position,” and that the “increased and weight-dependent counterforce is generated...by the leaf spring 21a coming to lie on the support 25,” and that this contact “leads to an increase in the spring force which acts counter to the seat.” Ex. 1006, ¶ [0074]. Fig. 8c, below, depicts the elongate spring bar in red, bending against the fulcrum part in green transversely to the length of the spring bar via the force applied by projection 22a in yellow. Ex. 1006, Fig. 8c.



Ex. 1006, Fig. 8c (annotated).

Q. DEPENDENT CLAIM 21

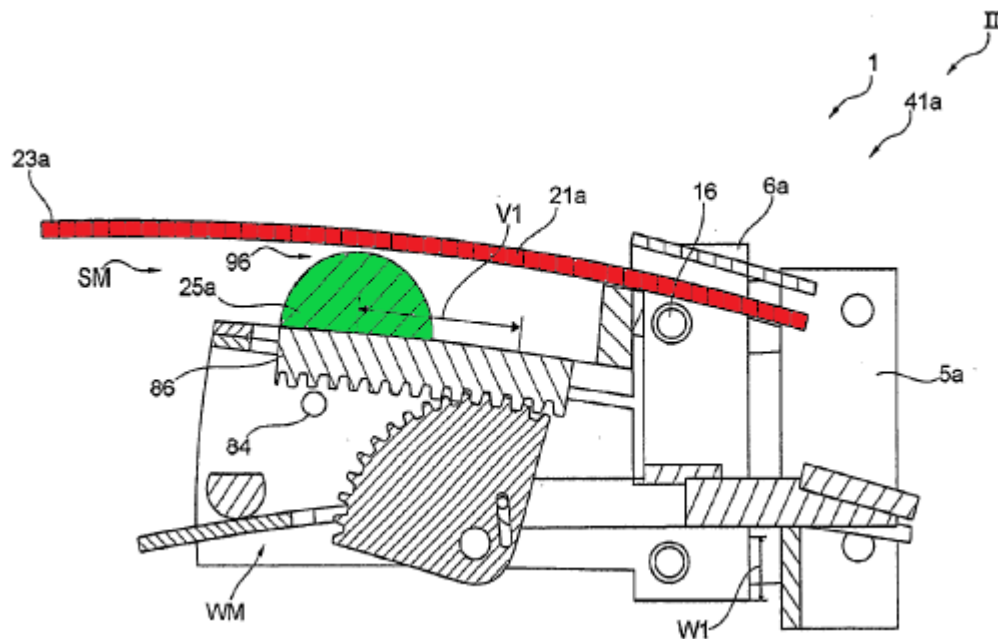
The reconfigurable apparatus for seating a user according to claim 3 wherein the reconfigurable apparatus comprises an elongate spring bar having a length and that resists changing of the angular orientation of the back, rest from the starting position by bending against a fulcrum part, the seat moves a first distance between the first and loaded positions, and the first and second rack and pinion gears are configured so that as an incident of the seat moving from the first position into the loaded position there is relative movement of the elongate spring bar and fulcrum along the length of the elongate spring bar a distance different than the first distance.

193. As explained in ¶¶ 128-132, Schmitz '637 discloses the limitations of claim 3.

194. In my opinion, Schmitz '637 discloses wherein the reconfigurable apparatus comprises an elongate spring bar having a length and that resists changing of the angular orientation of the backrest from the starting position by bending against a fulcrum part, the seat moves a first distance between the first and loaded positions, and the first and second rack and pinion gears are configured so that as an incident of the seat moving from the first position into the loaded position there is relative movement of the elongate spring bar and fulcrum along the length of the elongate spring bar a distance different than the first distance.

195. First, Schmitz '637 discloses an elongate spring bar having a length and that resists changing of the angular orientation of the backrest from the starting position by bending against a fulcrum part.

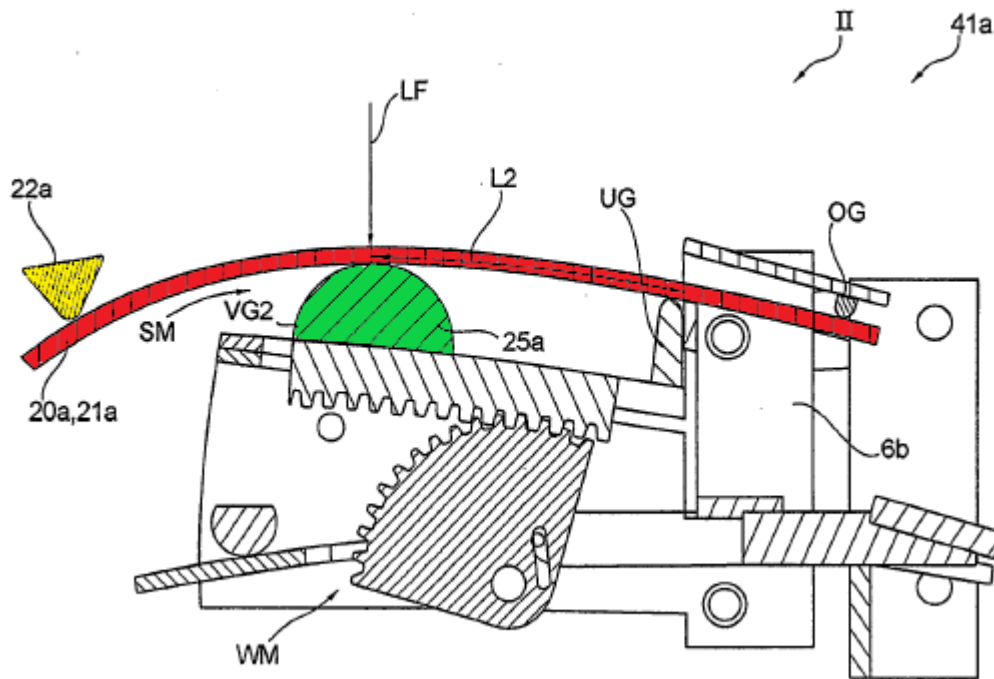
196. Schmitz '637 teaches that “the leaf spring 21a,” which is an elongate spring bar having a length, and “the support 25a,” which is a fulcrum part, “form a spring mechanism SM.” Ex. 1006, ¶ [0071]. Fig. 7f, below, depicts the elongate spring bar in red and the fulcrum part in green. Ex. 1006, Fig. 7f.



Ex. 1006, Fig. 7f (annotated).

197. Schmitz '637 further teaches that “leaf spring 21a” resists changing of the angular orientation of the backrest from the starting position by bending against “support 25a.” As explained above in Section VIII.A.5, Schmitz '637 explains that “spring mechanisms SM,” which comprise “leaf springs 21a, 21b” support “against

an inclination movement of the seat 7”, which includes the back part thereof. Ex. 1006, ¶ [0070]-[0071]. Schmitz ’637 further explains that “[a]n operative connection or contact between the support 25a and the leaf spring 21a occurs...when [a] person reclines out of his upright sitting position,” and that the “increased and weight-dependent counterforce is generated...by the leaf spring 21a coming to lie on the support 25,” and that this contact “leads to an increase in the spring force which acts counter to the seat.” Ex. 1006, ¶ [0074]. Fig. 8c, below, depicts the elongate spring bar in red bending against the fulcrum part in green via the force applied by projection 22a in yellow. Ex. 1006, Fig. 8c.



Ex. 1006, Fig. 8c (annotated).

198. Second, Schmitz '637 discloses that the seat moves a first distance between the first and loaded positions and, and as an incident thereof, the first and second rack and pinion gears are configured so there is relative movement of the elongate spring bar and fulcrum along the length of the elongate spring bar.

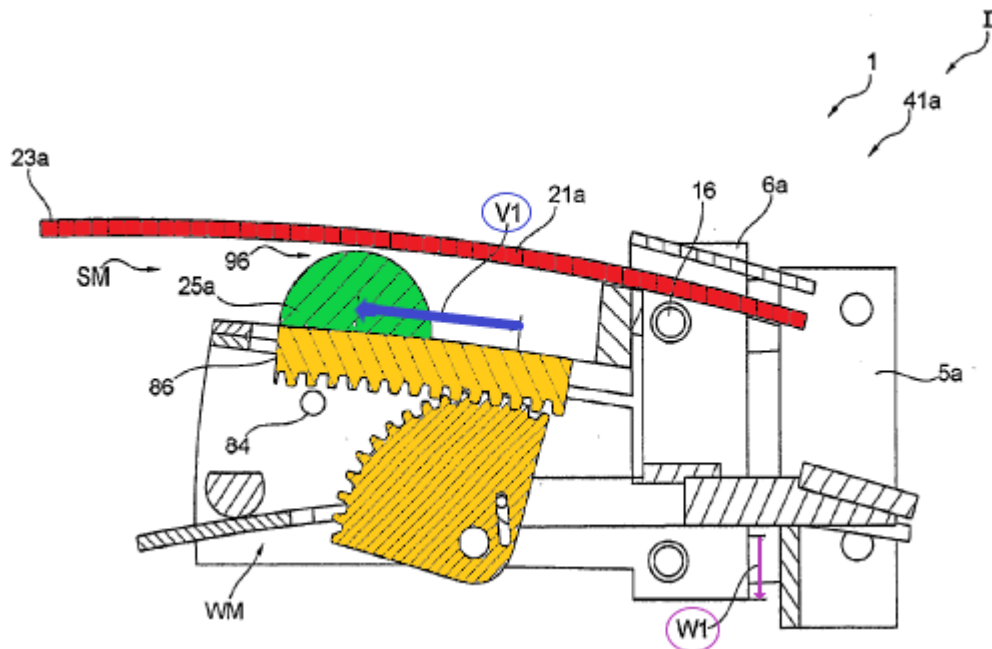
199. In particular, Schmitz '637 discloses that when its seat 7 is “loaded with a weight force of a person sitting”—which is the seat being changed from the first position into the loaded position—upper part 6a, which supports seat 7, moves a “weighing distance W1”—the claimed “first distance”—which causes a “displacement distance V1”—the claimed “relative movement”—of support 25a (the fulcrum part) along the length of leaf spring 21a. Ex. 1006, ¶ [0073].

200. As explained above, this displacement of support 25a is the result of the configuration of the first and second rack and pinion gears. In particular, “when the seat 7 is loaded with a weight force”—i.e., the seat moving from the first position into the loaded position—“the toothed quadrant 87” is “moved downward,” which “causes a rotation of the toothed quadrant,” during which it “takes up, or meshes with, the toothed slide 86,” which causes the toothed slide 86 to “translate[]...to the left.” Ex. 1006, ¶ [0071].

201. Third, Schmitz '637 discloses that this relative movement of the elongate spring bar and fulcrum along the length of the elongate spring bar is a distance different than the first distance. That is, Schmitz '637 teaches that the

displacement distance V1 is greater than the weighing distance W1. In particular, Schmitz '637 teaches that a “step-up”—i.e., an increase—“of the weighing movement...thus takes place in the movement converter 41a”—which causes the displacement of support 25a. Ex. 1006, ¶ [0073]. Thus, “even with a small weighing movement, a sensitive setting of the spring mechanism SM can be carried out on account of the step-up.” *Id.* Schmitz '637 states that “ $W1 = 2.5 \times V1$,” *id.*, but a PHOSITA would understand from Figure 7f—which depicts V1 as larger than W1—and from the “step-up” language discussed above that this is a typo and, in fact, should read: “ $V1 = 2.5 \times W1$.”

202. Figure 7f, annotated below, depicts the elongate spring bar in red, a fulcrum part in green, rack and pinion gears in orange, a first distance (W1) between the first and loaded positions in purple, and a distance different than the first distance (V1) in blue. Ex. 1006, Fig. 7f.



Ex. 1006, Fig. 7f (annotated).

203. Further, as discussed above, Schmitz '637 discloses that there is a second movement converter 41b that operates in the same manner and with the same components as movement converter 41: “a left movement converter 41b (see FIG. 7c) is designed similarly to the right movement converter 41a.” Ex. 1006, ¶ [0071].

204. In sum, in my opinion, Schmitz '637 discloses “the reconfigurable apparatus for seating a user according to claim 3 wherein the reconfigurable apparatus comprises an elongate spring bar having a length and that resists changing of the angular orientation of the back, rest from the starting position by bending against a fulcrum part, the seat moves a first distance between the first and loaded positions, and the first and second rack and pinion gears are configured so that as an incident of the seat moving from the first position into the loaded position there is

relative movement of the elongate spring bar and fulcrum along the length of the elongate spring bar a distance different than the first distance.”

R. DEPENDENT CLAIM 22

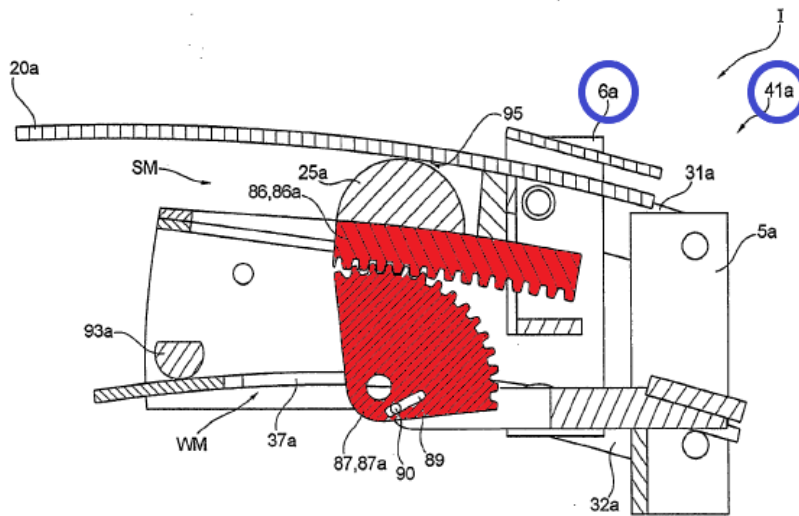
The reconfigurable apparatus for seating a user according to claim 4 wherein the seat moves a first distance between the first and loaded positions and the plurality of gears comprises first and second gear pairs configured so that as an incident of the seat moving from the first position into the loaded position there is relative movement of the elongate spring bar and fulcrum along the length of the elongate spring bar a distance different than the first distance.

205. As explained in ¶¶ 133-137, Schmitz '637 discloses the limitations of claim 4.

206. In my opinion, Schmitz '637 discloses wherein the seat moves a first distance between the first and loaded positions and the plurality of gears comprises first and second gear pairs configured so that as an incident of the seat moving from the first position into the loaded position there is relative movement of the elongate spring bar and fulcrum along the length of the elongate spring bar a distance different than the first distance.

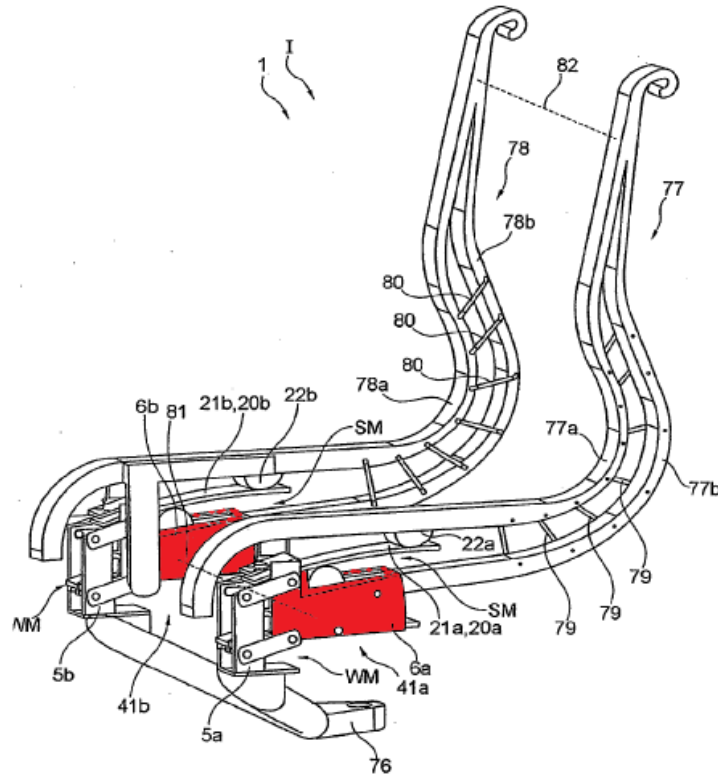
207. First, as explained above, Schmitz '637 discloses a plurality of gears that comprise first and second gear pairs. In particular, Schmitz '637 discloses a “toothed slide 86 or linear/curvilinear rack or gear” and a “toothed quadrant 87, or

rotary gear,” which comprise a first gear pair. Ex. 1006, ¶ [0071]. Schmitz ’637 explains that the “toothed slide 86 or linear/curvilinear rack or gear,” and the “toothed quadrant 87, or rotary gear,” discussed above, are part of a “movement converter 41a.” Ex. 1006, ¶ [0071]. Fig. 7e, annotated below, shows the first gear pair in red, housed in upper part 6a as part of movement converter 41a. Ex. 1006, Fig. 7e.



Ex. 1006, Fig. 7e (annotated).

208. Schmitz ’637 further discloses that there are two of these components: “a left movement converter 41b (see FIG. 7c) is designed similarly to the right movement converter 41a,” Ex. 1006, ¶ [0071]. Fig. 7c, below, depicts the two uppers parts 6a, 6b, which house the two movement converters 41a, 41b, in red. Ex. 1006, Fig. 7c.



Ex. 1006, Fig. 7c (annotated).

209. A PHOSITA would understand from this disclosure that movement converter 41b includes a second gear pair: namely, a second “toothed slide 86 or linear/curvilinear rack or gear,” and a second “toothed quadrant 87, or rotary gear.”

210. Second, Schmitz ’637 discloses that as an incident of the seat moving a first distance between the first and loaded position, the plurality of gears are configured so that there is relative movement of the elongate spring bar and fulcrum along the length of the elongate spring bar.

211. As previously explained, “[w]hen the seat 7 is loaded with a weight force, the upper part 6a, on which the seat 7 is supported...is lowered slightly”—that is, the seat moves between the first and loaded positions. Ex. 1006, ¶ [0071]. In

turn, the plurality of gears are configured such that there is relative movement of the elongate spring bar and fulcrum: toothed quadrant 87 is “moved downward,” which “causes a rotation of the toothed quadrant,” during which it “takes up, or meshes with, the toothed slide 86,” which “translates this support [25],” i.e., the fulcrum, “to the left in the direction of the free end 23a of the leaf spring 21,” i.e., the elongate spring bar. Ex. 1006, ¶ [0071].

212. Third, Schmitz ’637 discloses that the movement of the fulcrum relative to the spring bar is a distance different than the first distance. In particular, Schmitz ’637 discloses that when its seat 7 is “loaded with a weight force of a person sitting”—which is the seat being changed from the first position into the loaded position—upper part 6a, which supports seat 7, moves a “weighing distance W1”—the claimed “first distance”—which causes a “displacement distance V1”—the claimed “relative movement”—of support 25a (the fulcrum part) along the length of leaf spring 21a. Ex. 1006, ¶ [0073].

213. Schmitz ’637 further teaches that weighing distance W1 is different from displacement distance V1. In particular, Schmitz ’637 teaches that a “step-up”—i.e., an increase—“of the weighing movement...takes place in the movement converter 41a”—which causes the displacement of support 25a. Ex. 1006, ¶ [0073]. Thus, “even with a small weighing movement, a sensitive setting of the spring mechanism SM can be carried out on account of the step-up.” *Id.* Schmitz ’637 states

that “ $W1 = 2.5 \times V1$,” *id.*, but a PHOSITA would understand from Figure 7f—which depicts $V1$ as larger than $W1$ —and from the “step-up” language discussed above that this is a typo and, in fact, should read: “ $V1 = 2.5 \times W1$.”

214. In sum, in my opinion, Schmitz ’637 discloses “the reconfigurable apparatus for seating a user according to claim 4 wherein the seat moves a first distance between the first and loaded positions and the plurality of gears comprises first and second gear pairs configured so that as an incident of the seat moving from the first position into the loaded position there is relative movement of the elongate spring bar and fulcrum along the length of the elongate spring bar a distance different than the first distance.”

IX. TAKAMATSU ’372 ANTICIPATES CLAIMS 1-3, 7, 15, AND 17

215. For reasons that I will address in more detail below, it is my opinion that Takamatsu ’372 anticipates claims 1-3, 7, 15, and 17.

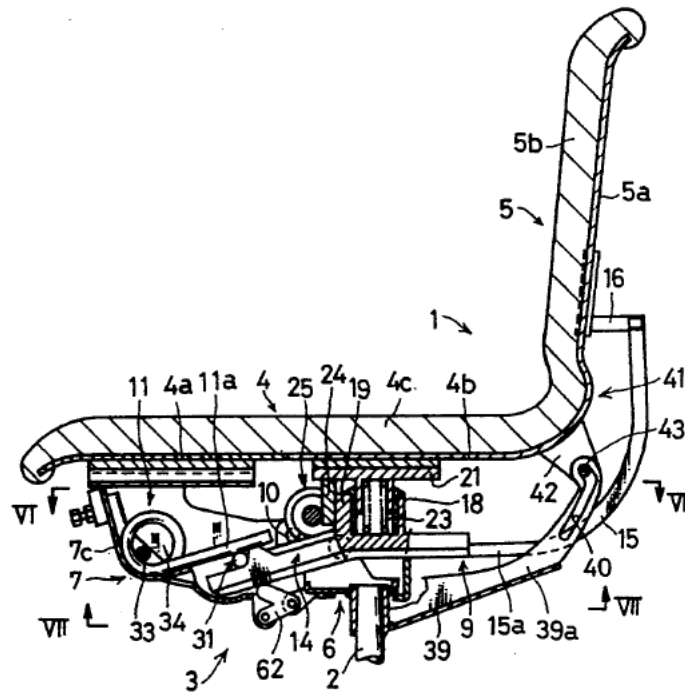
A. INDEPENDENT CLAIM 1

1. [1] A reconfigurable apparatus for seating a user, the reconfigurable apparatus comprising:

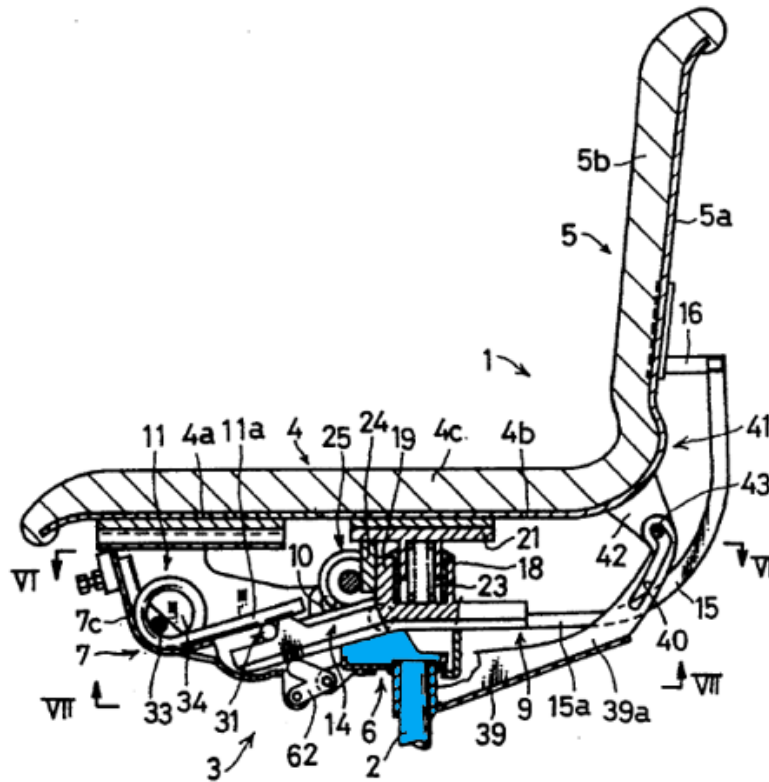
216. In my opinion, Takamatsu ’372 discloses a reconfigurable apparatus for seating a user.

217. Takamatsu ’372 discloses that it is “an object of the present invention to provide a chair tilting control assembly which is capable of automatically

adjusting the tilting support ability of the tilting control spring or springs and which is further capable of holding the thus adjusted tilting support ability at least at the time of rearwardly tilting a seat back.” Ex. 1007, 1:51-57. In other words, Takamatsu ’372 discloses a chair, which is an apparatus for seating a user, that is reconfigurable. Figure 2, below, depicts an embodiment of the reconfigurable apparatus for seating a user. Ex. 1007, Fig. 2.



pivotal frame 7” is attached to “the fixed frame 6.” Ex. 1007, 4:6-9. Figure 2, below, depicts the “fixed frame 6” and “the chair leg post 2” in blue. Ex. 1007, Fig. 2.



Ex. 1007, Fig. 2 (annotated).

220. In my opinion, the “fixed frame 6” and “the chair leg post 2” comprise the claimed “frame.”

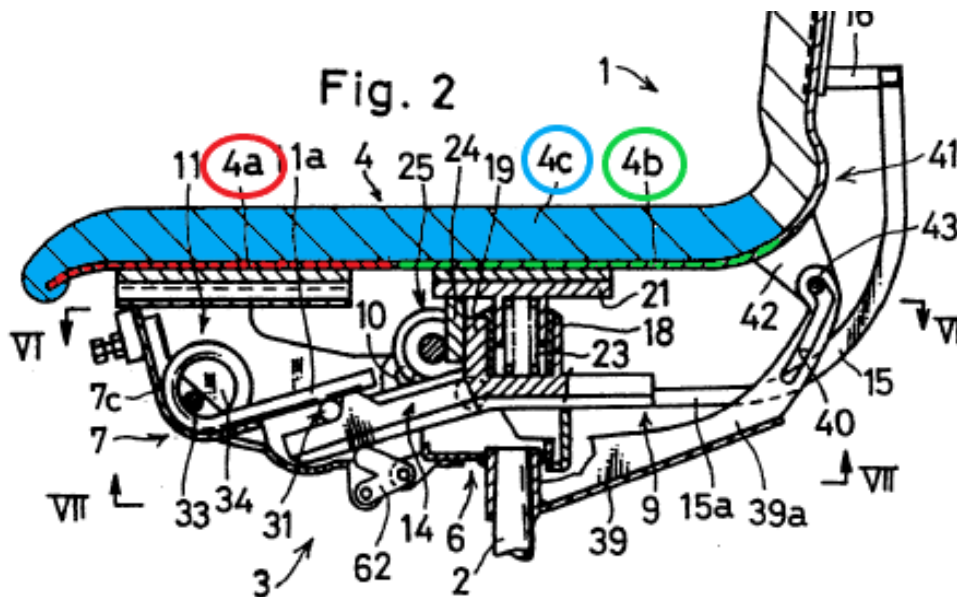
3. [1.b] a seat mounted on the frame and movable relative to the frame between: a) a first position in which the seat resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat,

221. In my opinion, Takamatsu '372 discloses a seat mounted on the frame and movable relative to the frame between: a) a first position in which the seat

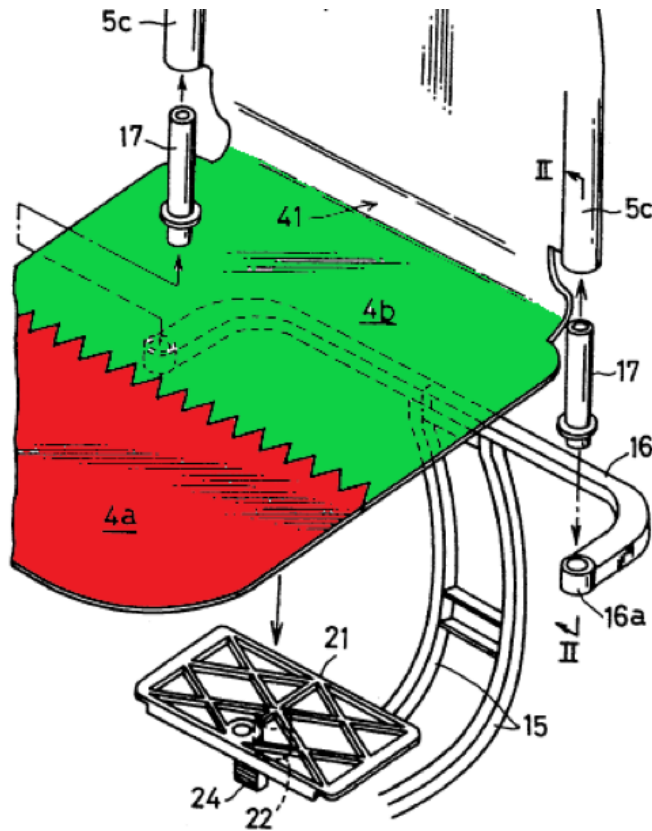
resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat.

222. Takamatsu '372 discloses a “seat 4” that is mounted on the frame. Ex. 1007, 3:54-59. As discussed above in Section VI.D.2, it is my opinion that a PHOSITA would understand “a seat mounted on the frame” to mean “a seat mounted directly or indirectly on the frame.”

223. Takamatsu '372 explains that the “seat 4 [is] mounted on the support device 3.” Ex. 1007, 3:57-58. In particular, “seat 4 includes a seat front carrier plate 4a, a seat tail carrier plate 4b, and a seat cushion 4c attached on the respective carrier plates 4a, 4b.” Ex. 1007, 3:60-63. Annotated Figures 2 and 5, below, show the “seat front carrier plate 4a” in red, the “seat tail carrier plate 4b” in green, and the “seat cushion 4c” in blue, all of which comprise the “seat 4.” Ex. 1007, Fig. 2; Fig. 5.



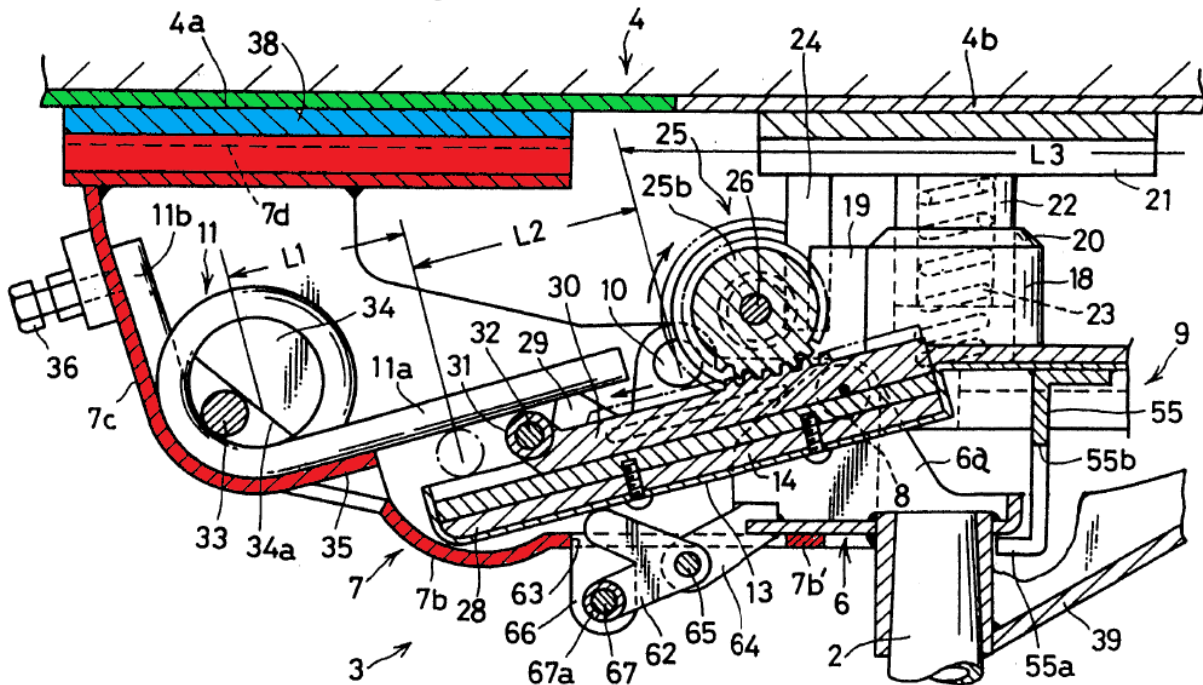
Ex. 1007, Fig. 2 (annotated).



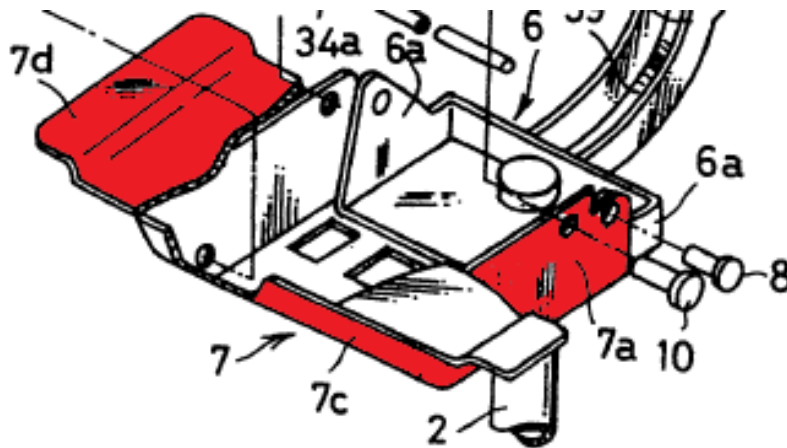
Ex. 1007, Fig. 5 (annotated).

224. Takamatsu '372 explains that seat front carrier plate 4a is attached to pivotal frame 7 via a front support plate 38. In particular, “the side flanges 7d of the pivotal frame 7 are attached to a front support plate 38 which, in turn, is attached to the underside of the seat front carrier plate 4a.” Ex. 1007, 6:27-30. Annotated Figures 8 and 3, below, show this connection, including the multiple components of the “pivotal frame 7” in red, and the “front support plate 38” in blue, attached to the “front carrier plate 4a” in green. Ex. 1007, Fig. 8; Fig. 3.

Fig. 8



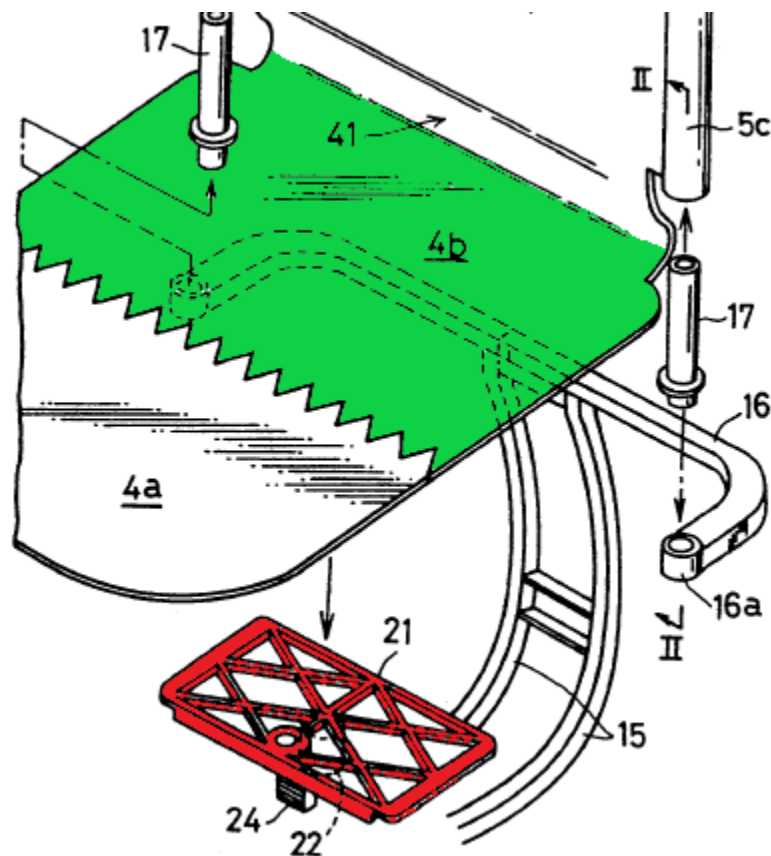
Ex. 1007, Fig. 8 (annotated).



Ex. 1007, Fig. 3 (annotated).

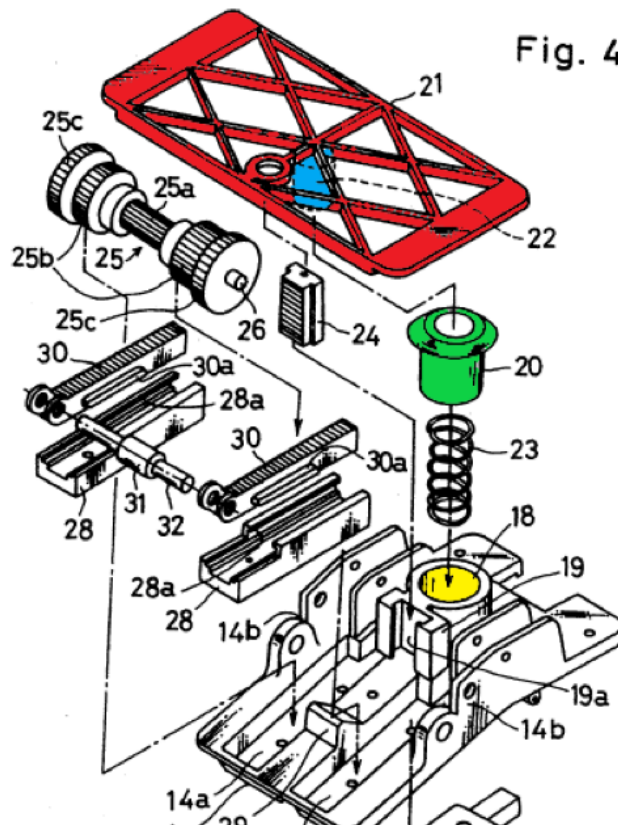
225. The seat tail carrier plate 4b is attached to a rear support plate 21 that, in turn, is received in mechanism carrier 14 of tiltable member 9. In particular, Takamatsu '372 explains that “a rear support plate 21...is attached to the underside

of the seat tail carrier plate 4b.” Ex. 1007, 5:8-10. Rear support plate 21 has a “downwardly directed housing cylinder 22” that is received in “guide bush 20.” Ex. 1007, 5:10-13. Guide bush 20, in turn, is received in “cylindrical boss 18” formed in “mechanism carrier 14,” which forms part of tiltable member 9. Ex. 1007, 5:3-6. Figures 5 and 4, below, show this arrangement. Ex. 1007, Fig. 5; Fig. 4. Specifically, Figure 5 depicts the “rear support plate 21” in red and the “seat tail carrier plate 4b” in green. Ex. 1007, Fig. 5.



Ex. 1007, Fig. 5 (annotated).

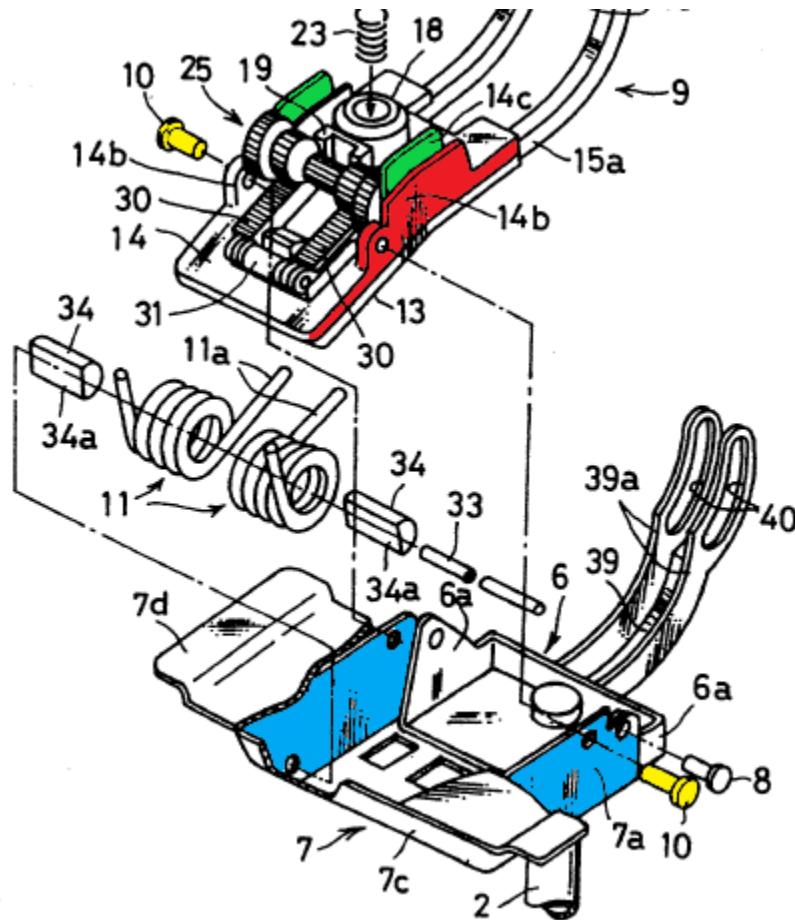
226. And Figure 4 depicts the “rear support plate 21” in red, the “downwardly directed housing cylinder 22” in blue, the “guide bush 20” in green, and the “cylindrical boss 18” in yellow. Ex. 1007, Fig. 4.



Ex. 1007, Fig. 4 (annotated).

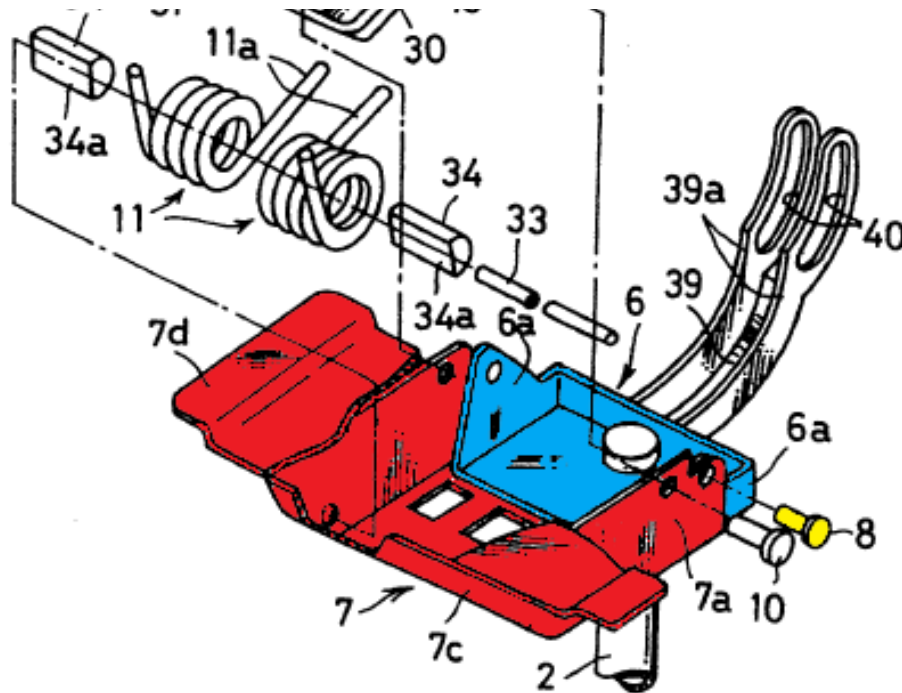
227. Tilttable member 9, in turn, is pivotally connected to pivotal frame 7. In particular, Takamatsu '372 explains that “mechanism carrier 14” of tilttable member 9 “has a pair of upwardly directed outer side brackets 14b and a pair of upwardly directed inner side brackets 14c,” wherein the “outer side brackets 14b are connected respectively to the side walls 7a of the pivotal frame 7 by the respective second pivots 10.” Ex. 1007, 4:48-53. Figure 3, below, depicts this arrangement, including

the “side brackets 14b” in red, the “inner side brackets 14c” in green, the “side walls 7a” in blue, and the “pivots 10” in yellow.” Ex. 1007, Fig. 3.



Ex. 1007, Fig. 3 (annotated).

228. Finally, pivotal frame 7 is pivotally connected to fixed frame 6 (part of the claimed “frame”). In particular, Takamatsu ’372 describes that “pivotal frame 7...is pivotable about the first pivots 8 relative to the fixed frame 6.” Ex. 1007, 4:54-56. Figure 3, below, shows this arrangement, including the “pivotal frame 7” in red, the “pivots 8” in yellow, and the “fixed frame 6” in blue. Ex. 1007, Fig. 3.

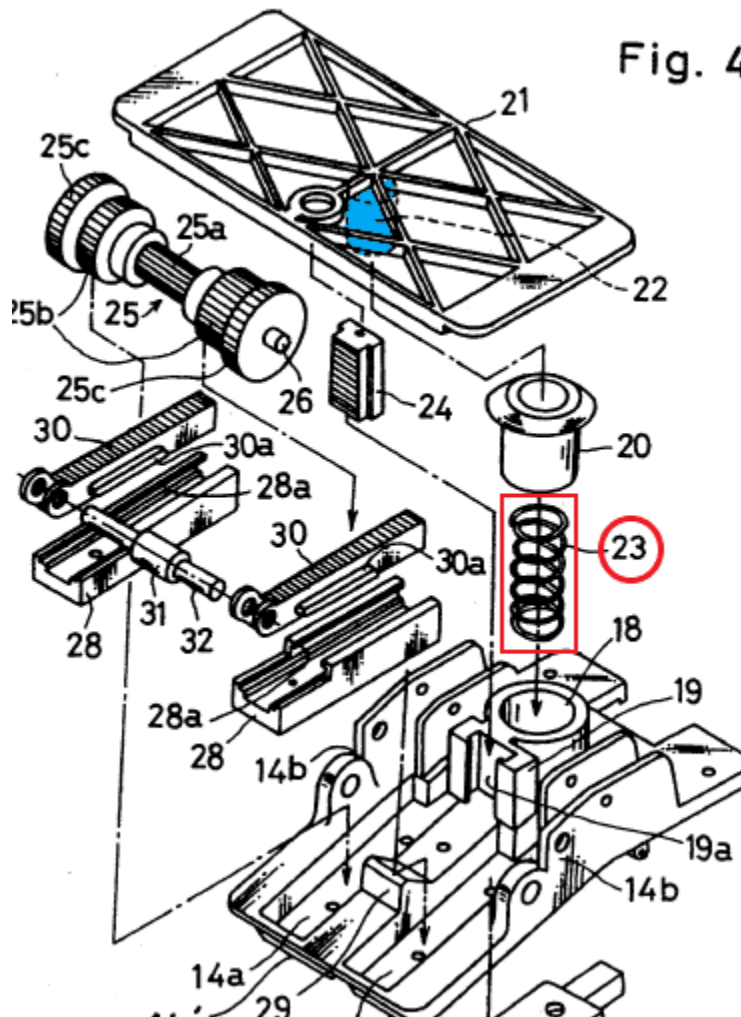


Ex. 1007, Fig. 3 (annotated).

229. In short, seat 4 is mounted on the claimed “frame” (“fixed frame 6” and “the chair leg post 2”) via pivotal frame 7 and tiltable member 9.

230. Further, Takamatsu '372 discloses that the seat is movable relative to the frame between: a) a first position in which the seat resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat. As discussed above (§ 225), rear support plate 21, which is below the seat, includes downwardly directed housing cylinder 22 that is received in guide bush 20 that, in turn, is received in cylindrical boss 18 of mechanism carrier 14 of tiltable member 9. In addition, the “housing cylinder 22 accommodates a weight responsive coil spring 23 resting on the mechanism carrier

14.” Ex. 1007, 5:13-15. Figure 4, below, depicts the “housing cylinder 22” in blue, and the “weight responsive coil spring 23” that it accommodates in red. Ex. 1007, Fig. 4.

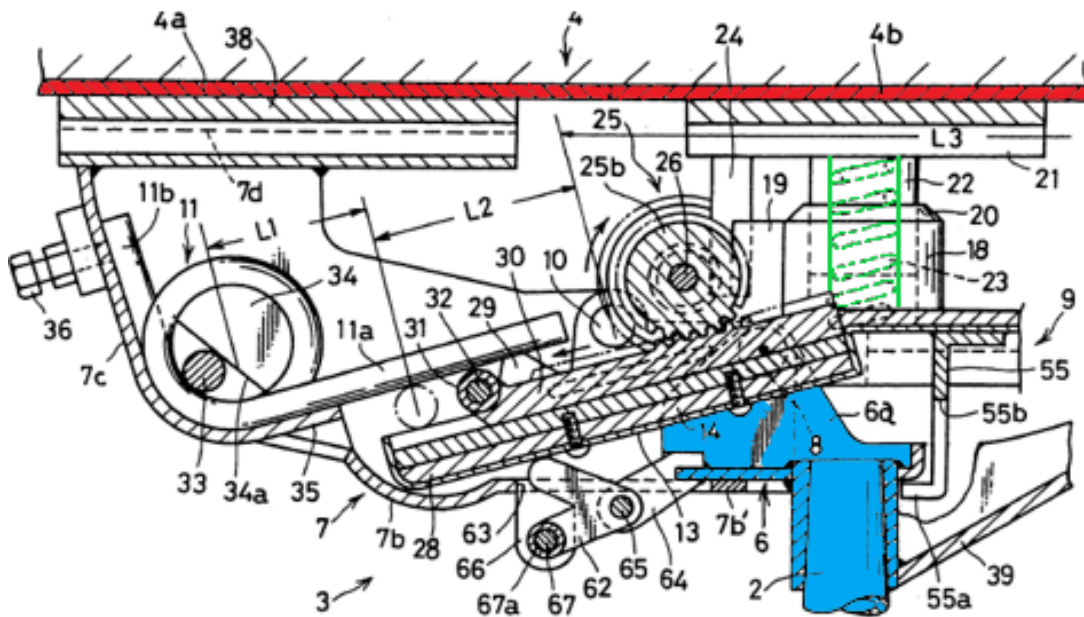


Ex. 1007, Fig. 4 (annotated).

231. Takamatsu '372 teaches that “the seat 4 moves downward against the weight responsive coil spring 23 by an amount which is substantially proportional to the weight of the user.” Ex. 1007, 5:15-18. Takamatsu further explains that “when the user sits on the seat 4, the seat tail carrier plate 4b of the seat 4 moves downward

against the weight responsive spring 23 by an amount substantially proportional to the particular weight of the user.” Ex. 1007, 7:13-17.

232. Based on the position of the “weight responsive coil spring 23” shown in Figure 8, below, in green, between the claimed “seat” in red and the claimed “frame” in blue, a PHOSITA would understand that Takamatsu ’372 discloses a seat mounted on the frame and movable relative to the frame. Ex. 1007, Fig. 8.



Ex. 1007, Fig. 8 (annotated).

233. A PHOSITA, moreover, would understand that the claimed “first position” corresponds with the position of the seat before it moves down “by an amount substantially proportional to the weight of the user” and that the claimed “loaded position into which the seat moves from the first position as an incident of

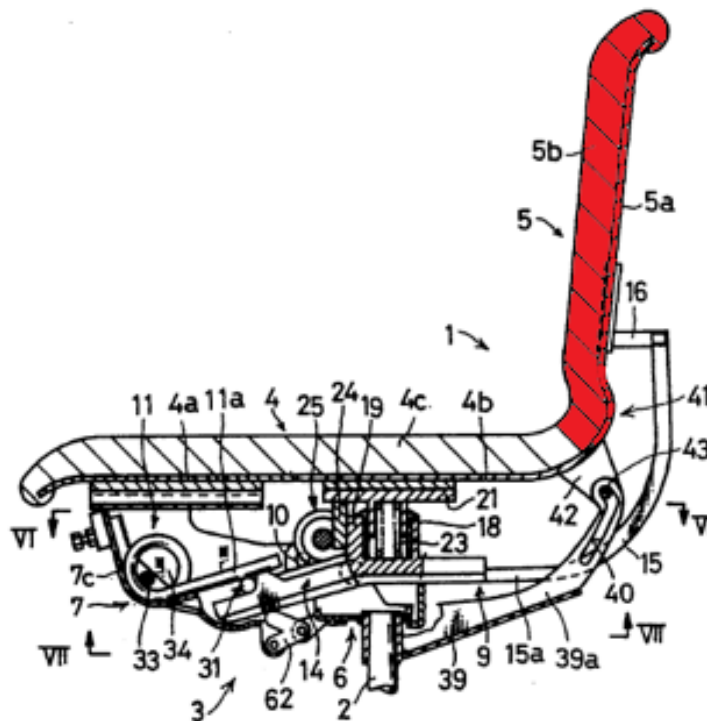
a user sitting on the seat” corresponds to the position of the seat after it moves down “by any amount which is substantially proportional to the weight of the user.”

234. Therefore, in my opinion, Takamatsu ’372 discloses a seat mounted on the frame and movable relative to the frame between: a) a first position in which the seat resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat.

4. [1.c] a back rest against which a user sitting on the seat can bear his/her back to produce a leaning force that changes an angular orientation of the back rest relative to the frame,

235. In my opinion, Takamatsu ’372 discloses a backrest against which a user sitting on the seat can bear his/her back to produce a leaning force that changes an angular orientation of the backrest relative to the frame.

236. First, Takamatsu ’372 discloses that “a seat back 5,” which is the claimed “back rest,” is “integral with the seat 4.” Ex. 1007, 3:58-59. Figure 2, below, depicts the “seat back 5” in red.

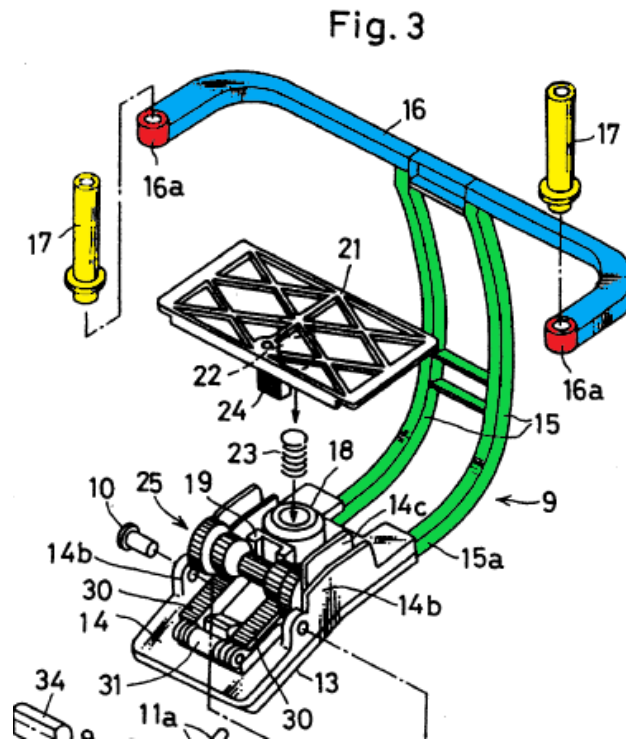


Ex. 1007, Fig. 2 (annotated).

237. Second, Takamatsu '372 discloses that the “seat back” is “arranged” to “tilt rearwardly,” Ex. 1007, 1:61-62, and that there is a tilting control spring means for “elastically supporting the seat back against rearward tilting thereof via load applying means,” *Id.*, 1:63-65.

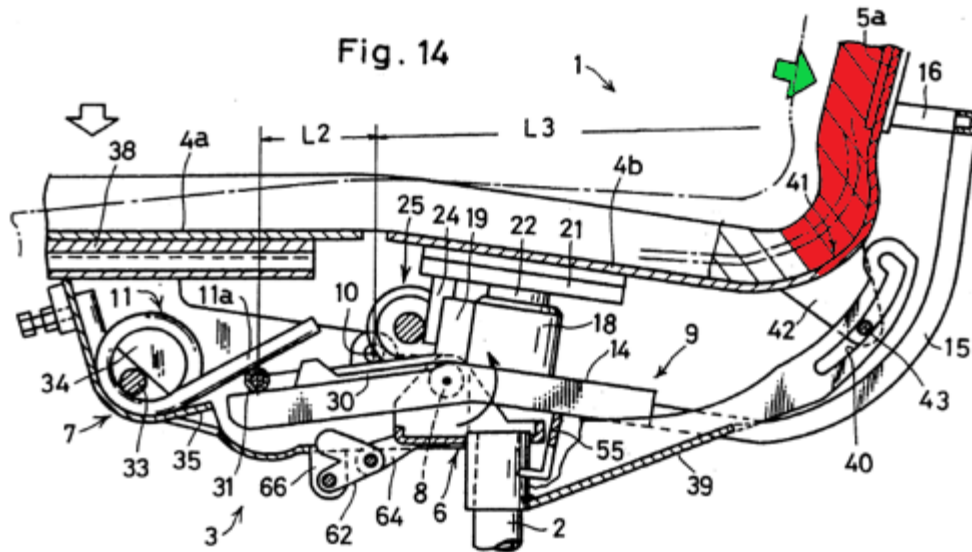
238. In particular, seat back 5 is attached to and pivots with tilting member 9, which is pivotally mounted on the frame and which bears against tilting control springs 11. To that end, Takamatsu '372 explains that “tiltable member 9 includes...a pair of generally L-shaped frame bars 15,” Ex. 1007, 4:35-39, wherein the “upper end of the frame bar 15 is fixed to a horizontal connecting bar 16,” Ex. 1007, 4:60-62. The ends horizontal connecting bar 16 are provided with “bushes

16a” that receive a “cylindrical member 17” that, in turn, is received in a “cylindrical receptacle 5c of the back carrier plate 5a,” which is part of seat back 5. Ex. 1007, 4:62-5:2. Figure 3, below, shows this arrangement, including the “L-shaped frame bars 15” in green, the “horizontal connecting bar 16” in blue, the “bushes 16a” in red, and the “cylindrical member 17” in yellow. Ex. 1007, Fig. 3.



Ex. 1007, Fig. 3 (annotated).

239. Figure 5, below, further shows this arrangement, including the “cylindrical member 17” in yellow, the “horizontal connecting bar 16” in blue, the “bushes 16a” in red, and the “cylindrical receptacle 5c” and the “back carrier plate 5a” in green. Ex. 1007, Fig. 5.



Ex. 1007, Fig. 14 (annotated).

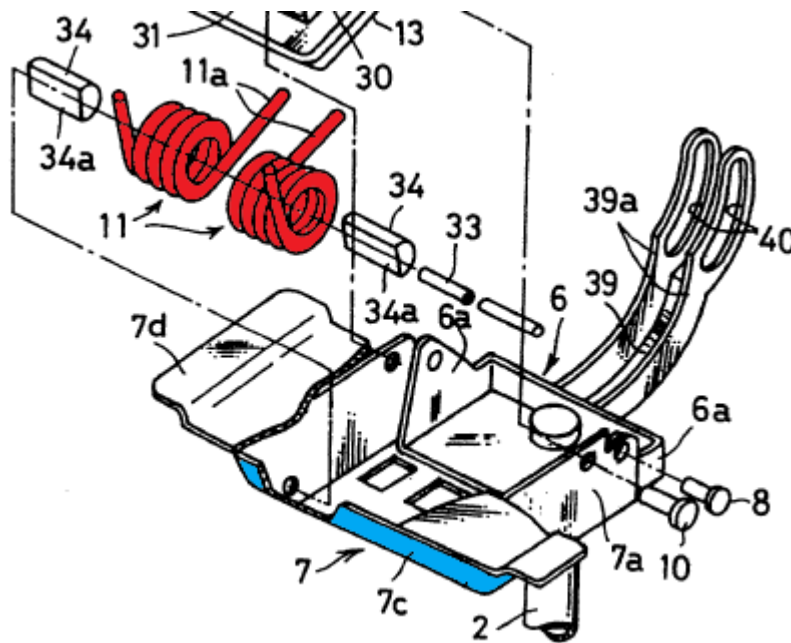
242. Therefore, in my opinion, Takamatsu '372, discloses a backrest against which a user sitting on the seat can bear his/her back to produce a leaning force that changes an angular orientation of the backrest relative to the frame.

5. [1.d] the apparatus configured so that a first leaning force is required to be applied to the back rest to change the angular orientation of the back rest from a starting angular position relative to the frame with no user sitting in the seat;

243. In my opinion, Takamatsu '372 discloses the apparatus configured so that a first leaning force is required to be applied to the backrest to change the angular orientation of the backrest from a starting angular position relative to the frame with no user sitting in the seat.

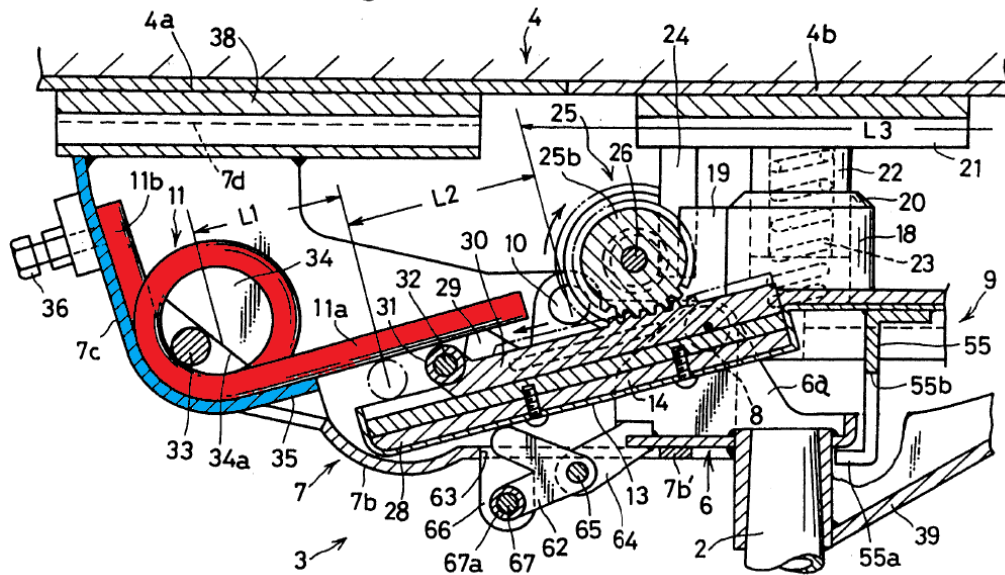
244. As explained above, Takamatsu '372 discloses a tilting control spring means for “elastically supporting the seat back against rearward tilting thereof via

load applying means.” Ex. 1007, 1:63-65. In particular, a pair of tilting control springs 11 controls the tilting of tiltable member 9 with which the backrest 5 pivots: “The pivotal movement of the tiltable member 9 is elastically controlled by a pair of tilting control springs 11,” which are “in the form of [] torsion coil spring[s]” with “a load receiving leg 11a and an anchoring leg 11b engaging against the front wall 7c of the pivotal frame 7.” Ex. 1007, 4:26-34. Annotated Figures 3 and 8, below, depict this arrangement, including the “torsion control springs 11” in red and the “front wall 7c of the pivotal frame 7” in blue. Ex. 1007, Fig. 3; Fig. 8.



Ex. 1007, Fig. 3 (annotated).

Fig. 8



Ex. 1007, Fig. 8 (annotated).

245. The control springs 11 resist the tilting of tiltable member 9 and seat back 5. Tiltable member 9 includes a “horizontal load applying pin 32” provided with a “load applying roller 31” that bears against “load receiving legs 11a” of the respective control springs 11. Ex. 1007, 5:49-55. Thus, when a user leans against backrest 5, load applying roller 31 bears against the control springs 11. In other words, “the load receiving legs 11a of the tilting control springs 11 are elastically raised upward by the load applying roller 31” when a user leans back, “so that rearward tilting of the seat back 5 and tiltable member 9 is elastically controlled by the tilting control springs 11.” Ex. 1007, 7:35-39. A PHOSITA would understand from this disclosure that a “first leaning force” would be required to tilt the seat back 5 against control springs 11 when no user is sitting in the seat.

246. Thus, in my opinion, Takamatsu '372 discloses the apparatus configured so that a first leaning force is required to be applied to the backrest to change the angular orientation of the backrest from a starting angular position relative to the frame with no user sitting in the seat.

- 6. [1.e] and an adjusting assembly comprising a plurality of gears that cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position and configured to thereby increase a resistance to changing of the angular orientation of the back rest from the starting angular position,**

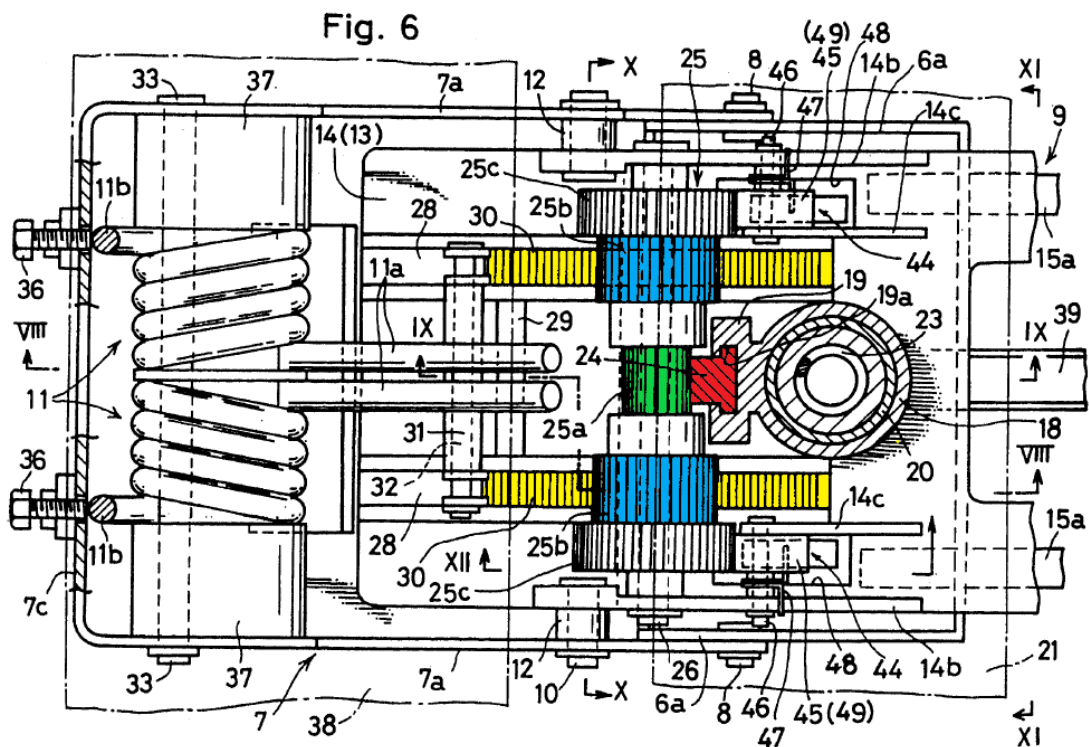
247. In my opinion, Takamatsu '372 discloses an adjusting assembly comprising a plurality of gears that cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position and configured to thereby increase a resistance to changing of the angular orientation of the backrest from the starting angular position. It is my opinion that Takamatsu '372 discloses this limitation regardless of whether “adjusting assembly” is construed as a means-plus-function claim limitation.

248. First, Takamatsu '372 discloses a plurality of gears that cooperate and move relative to each other. Takamatsu '372 discloses a “first rack 24,” which is part of “rear support plate 21.” Ex. 1007, 5:19-21. First rack 24 engages with “the first pinion 25a,” which is part of a larger “pinion assembly 25.” Ex. 1007, 5:25-31.

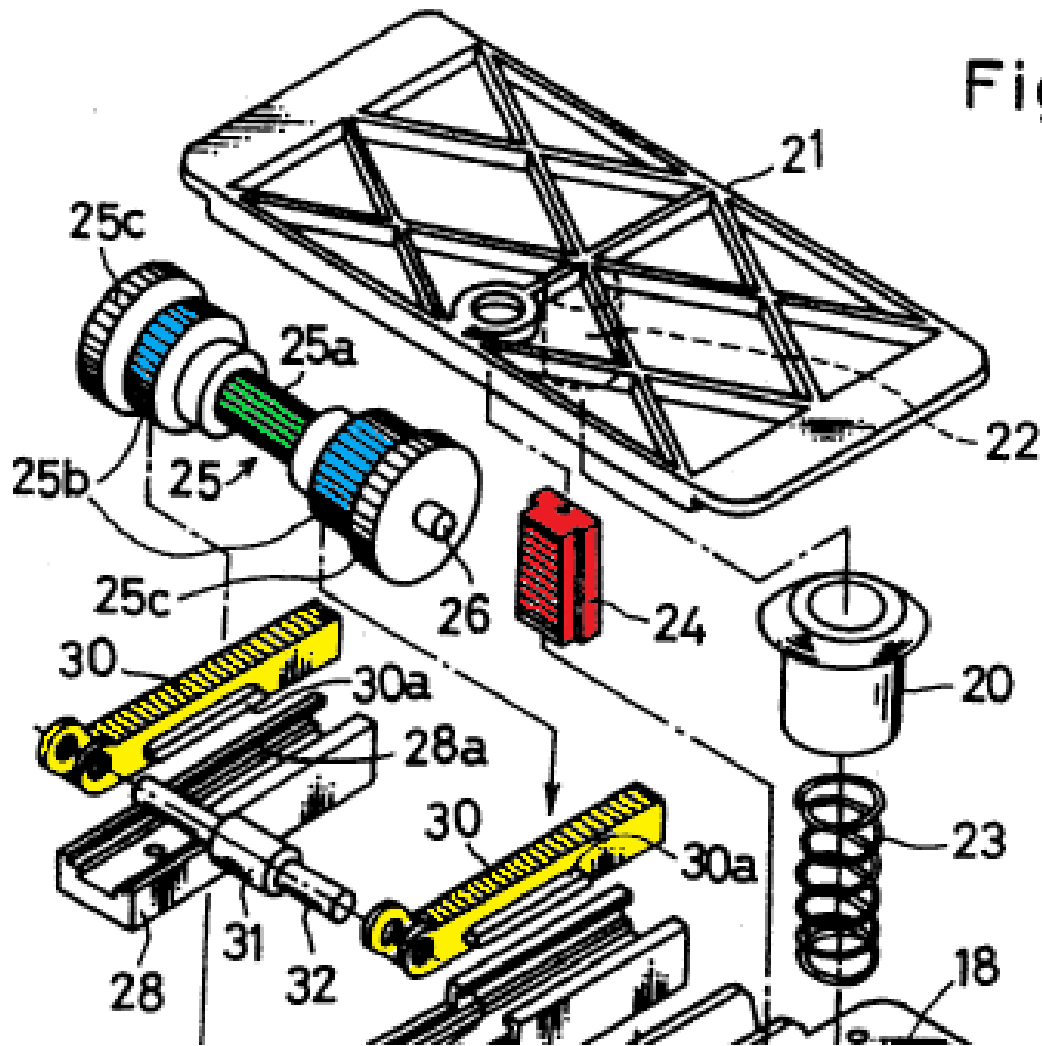
Pinion assembly 25 also includes a shaft 26 that supports a pair of “second pinions 25b,” which are “diametrically larger” than the first pinion 25a. *Id.*

249. Second pinions 25b, in turn, mesh with a pair of “second rack[s] 30” arranged in “second rack guide[s] 28” disposed on mechanism carrier 14. Ex. 1007, 5:32-37.

250. Figures 6 and 4, below, depict this arrangement, including the “first rack 24” in red, the “first pinion 25a” in green, the “second pinions 25b” in blue, and the “second racks 30” in yellow. Ex. 1007, Fig. 6; Fig. 4.



Ex. 1007, Fig. 6 (annotated).



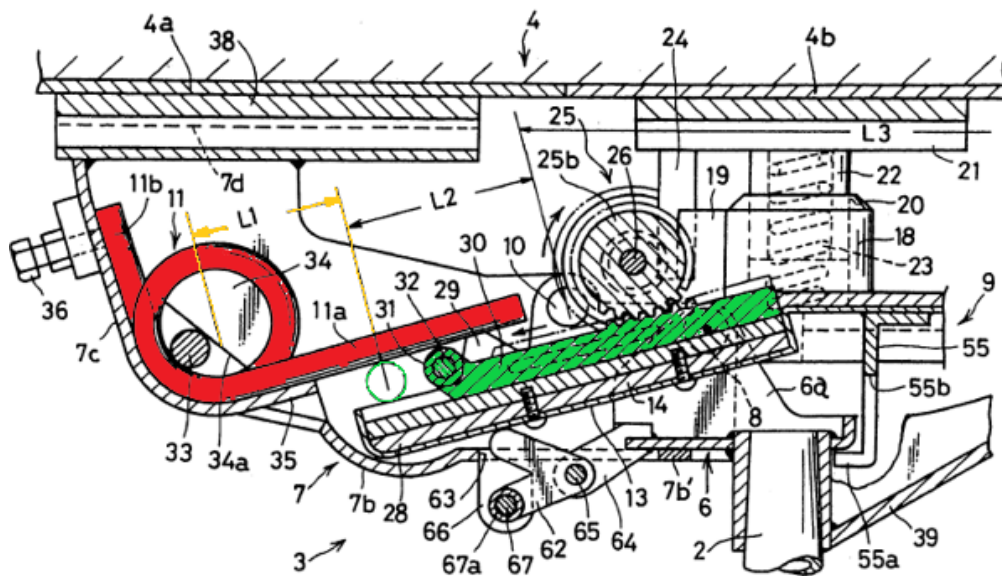
Ex. 1007, Fig. 4 (annotated).

251. Takamatsu '372 further discloses that the gears cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position. Takamatsu '372 explains that the “downward movement of the seat tail carrier plate 4b”—the seat moving from the claimed “first position” into a “loaded position”—causes “downward movement of the first rack 24,” which “engag[es] with the first pinion 25a, thereby rotating the pinion assembly 25.” Ex.

a resistance to changing of the angular orientation of the backrest from the starting angular position.

254. As explained above (§ 251), as the seat moves into the loaded position, load applying pin 32 is “advance[d]” along with second racks 30. This movement of load applying pin 32, in turn, increases a resistance to the tilting of seat back 5.

255. In particular, Takamatsu '372 explains that, “the effective length L1 (Fig. 8) of the load receiving leg 11a of each tilting control spring 11...reduces generally proportionally to the weight of the user.” Ex. 1007, 7:25-30. Figure 8, annotated below, depicts the “load applying pin 32” (and “load applying roller 31”) in green that acts on the “tilting control spring 11” in red, at an “effective length L1,” in orange. Ex. 1007, Fig. 8.



Ex. 1007, Fig. 8 (annotated).

256. This reducing of the effective length, in turn, increases the amount of force required to tilt seat back 5. That is, “the supportive force provided by each tilting control spring 11 is automatically adjusted to suit the weight of the user because the load applying pin 32...is displaced relative to the load receiving leg 11a of the spring 11 proportionally to the weight of the user.” Ex. 1007, 7:65-8:4.

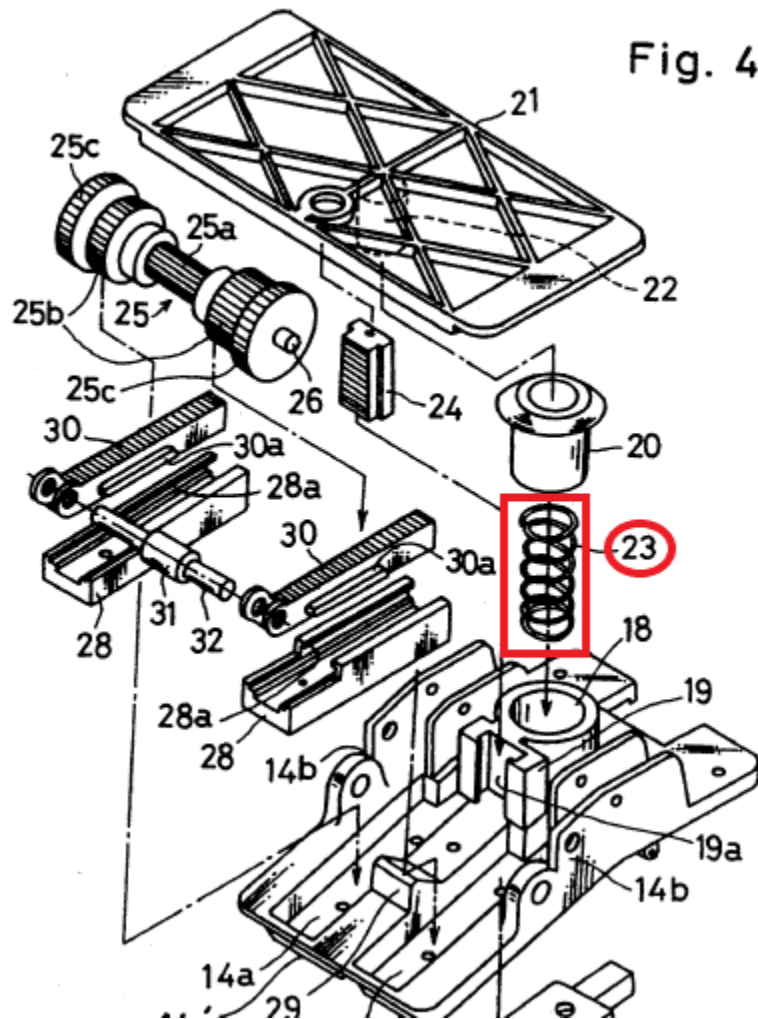
257. Takamatsu '372 further explains this phenomenon as follows:

First, the effective length L1...of the tilting control spring 11 reduces progressively as the weight of the user increases, whereas the degree of spring torsion per unit vertical displacement of the load applying pin 32 increases progressively as the effective length L1 reduces. Thus, the tilting control spring 11 provides a larger supportive force for a heavier user than for a lighter user. Secondly, the pivotal arm length L2...of the load applying pin 32, which is defined as the distance between the load applying pin 32 and the second pivots 10, increases progressively as the weight of the user increases, while the vertical displacement of the load applying pin 32 per unit pivotal angle of the tiltable member 9 increases progressively as the pivotal arm length L2 increases. Further, the torsioning degree of the tilting control spring 11 increases progressively as the vertical displacement of the load applying pin 32 increases. Thus, the spring 11 reacts more strongly for a heavier user than for a lighter user. In the third place, the pivotal arm length L3 (FIGS. 8 and 14) of the seat back 5, which is defined as the distance between the seat back 5 and the second pivots 10, is always constant, whereas the pivotal arm length L2 of the load applying pin 32 increases progressively as the weight of the user increases. Further, according to the force balance rule of leverage, when the pivotal arm length L2 of the load applying pin 32 increases, the tilting control spring 11 need only to apply a smaller reaction force to balance with a given weight or force applied to the seat back 5. Thus, the spring 11 can be considered to become stronger for a heavier user than for a lighter user although the spring constant of the spring 11 itself does not change.

Ex. 1007, 8:5-39.

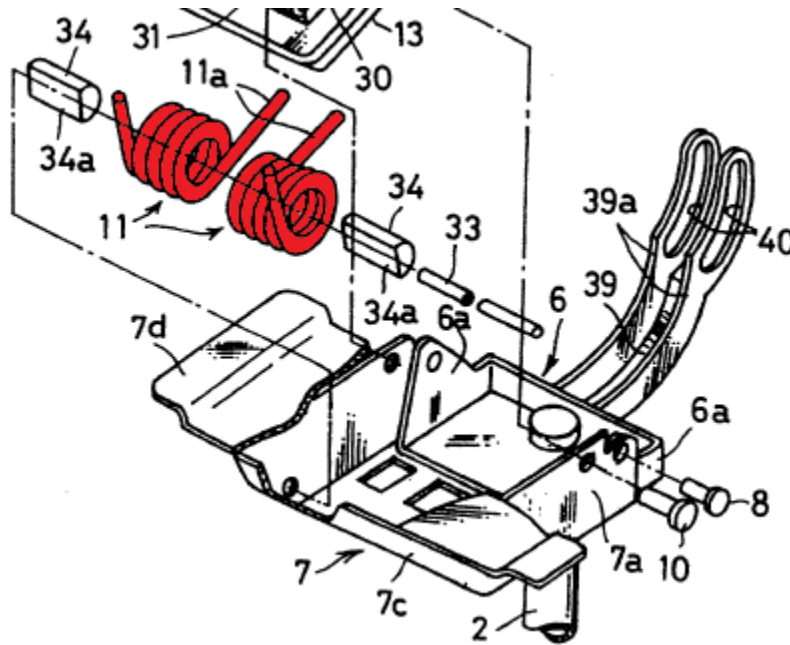
258. Thus, where the “rearward tilting of the seat back 5” is controlled by “the titling control springs 11,” Ex. 1007, 7:37-39, and “the tilting control spring 11 provides a larger supportive force for a heavier user than for a lighter user,” Ex. 1007, 8:10-12, a PHOSITA would understand that the plurality of gears are configured to thereby increase a resistance to changing of the angular orientation of the backrest from the starting angular position, as claimed.

259. Finally, in the event that “adjusting assembly” is construed as an MPF claim term, it is my opinion that Takamatsu ’372 discloses the claimed “adjusting assembly.” As discussed above in Section VI.D.1, it is my opinion that “adjusting assembly” is an MPF claim term. Takamatsu ’372 discloses this claim term because it discloses the same or equivalent structures that provide the same function. In particular, Takamatsu ’372 discloses a “weight responsive coil spring 23,” Ex. 1007, 5:13-15, that is the same as coil spring 33 disclosed in the DeJule ’753 Patent. In Fig. 4 of Takamatsu ’372 below, the coil spring 23 is annotated in red. Ex. 1007, Fig. 4.



Ex. 1007, Fig. 4 (annotated).

260. Moreover, Takamatsu '372 discloses “tilting control springs 11,” Ex. 1007, 4:27-29, that are equivalent to leaf spring 19 disclosed in the DeJule '753 Patent. In Figure 3 of Takamatsu '372, reproduced below, the tilting control springs 11 have been colored red. Ex. 1007, Fig. 3.



Ex. 1007, Fig. 3 (annotated).

261. Any differences between tilting control springs 11 and leaf spring 19 are insubstantial. Indeed, both structures provide the same function in substantially the same way (resiliently flexing against a tilting force) to provide substantially the same result (providing variable resistance to that force).

262. Finally, as discussed above (§§ 253-258), coil spring 23 and tilting control springs 11 cooperate to provide the claimed function of: configured to thereby increase a resistance to changing of the angular orientation of the backrest from the starting angular position. Accordingly, in my opinion, Takamatsu '372 discloses the claimed “adjusting assembly.”

7. [1.f] whereby as an incident of a user sitting on the seat a leaning force greater than the first leaning force is required to change the angular position of the back rest from the starting angular position.

263. In my opinion, Takamatsu '372 discloses whereby as an incident of a user sitting on the seat a leaning force greater than the first leaning force is required to change the angular position of the backrest from the starting angular position.

264. As explained above (¶¶ 251-258), a user sitting in seat 4 causes seat 4 along with rack 24 to move downwardly. This downward movement rotates the pinion assembly 25, which drives second racks 30 along with the load applying pin 32 such that the effective length L1 of the tilting control springs 11 decreases. This reduction of the effective length L1 of the tiling control springs 11, in turn, results in greater resistance against the tilting of seat back 5 as compared to no user sitting in the seat. A PHOSITA would understand that where there is a greater resistance against the tilting of seat back 5 as compared to no user sitting on the seat, a user would have to apply a force greater than a first leaning force (i.e. when no user is sitting on the seat) to change the angular orientation of the backrest from the starting angular position.

B. DEPENDENT CLAIM 2

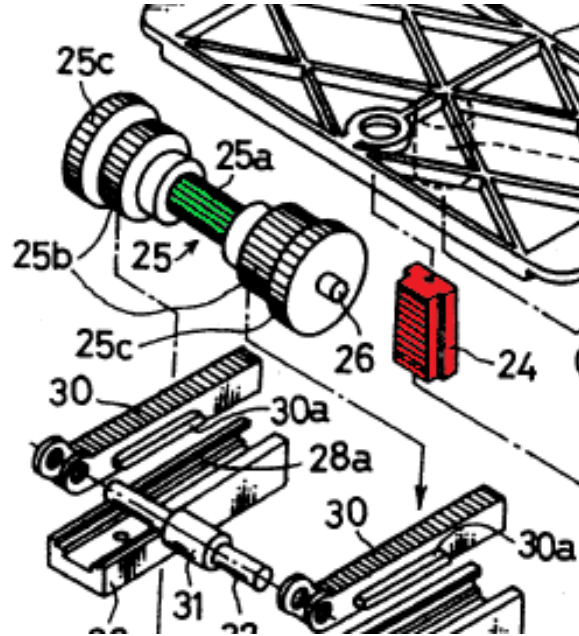
The reconfigurable apparatus for seating a user according to claim 1 wherein the plurality of gears comprises a first rack gear and first pinion gear, the first rack gear and first pinion gear cooperating with, and movable relative to, each other as an incident of the seat moving from the first position into the loaded position.

265. As explained in ¶¶ 216-264, Takamatsu '372 discloses the limitations of claim 1.

266. In my opinion, Takamatsu '372 discloses wherein the plurality of gears comprises a first rack gear and first pinion gear, the first rack gear and first pinion gear cooperating with, and movable relative to, each other as an incident of the seat moving from the first position into the loaded position.

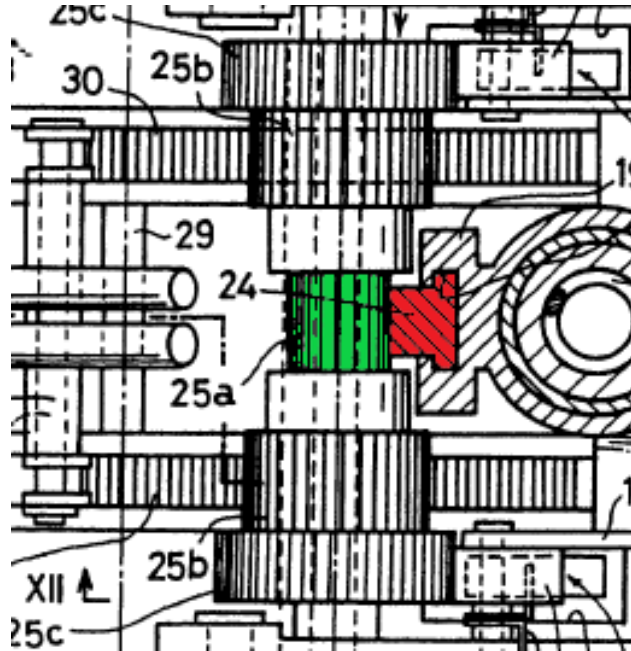
267. As discussed above (¶¶ 248-252), as to claim element 1.e, Takamatsu '372 discloses a plurality of gears that cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position. Specifically, Takamatsu '372 teaches that “when the user sits on the seat 4, the seat tail carrier plate 4b of the seat 4 moves downward...result[ing] in corresponding downward movement of the **first rack 24** engaging with the **first pinion 25a**, thereby rotating the pinion assembly 25.” Ex. 1007, 7:13-21 (emphasis added). A partial,

annotated view of Figure 4 depicts the “first rack 24” in red, and the “first pinion 25a” in green. Ex. 1007, Fig. 4.



Ex. 1007, Fig. 4 (annotated).

268. A partial, annotated view of Figure 6, depicts the “first rack 24,” in red, engaging with the “first pinion 25a,” in green. Ex. 1007, Fig. 6.



Ex. 1007, Fig. 6 (annotated).

269. Thus, in my opinion, Takamatsu '372 discloses “wherein the plurality of gears comprises a first rack gear and first pinion gear, the first rack gear and first pinion gear cooperating with, and movable relative to, each other as an incident of the seat moving from the first position into the loaded position.”

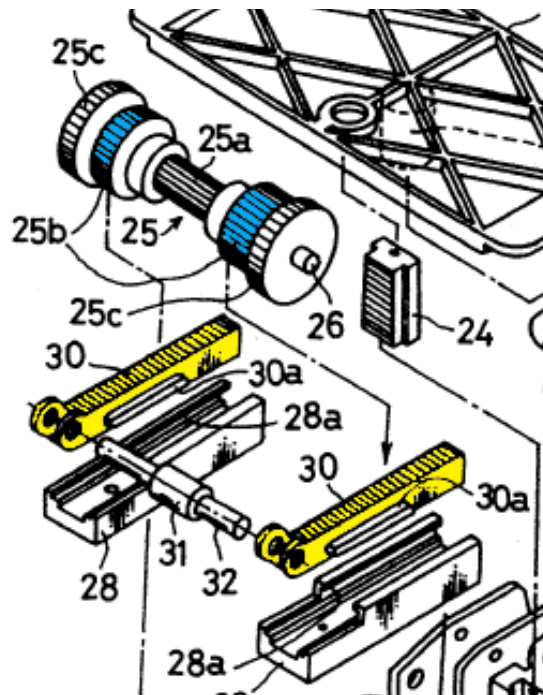
C. DEPENDENT CLAIM 3

The reconfigurable apparatus for seating a user according to claim 2 wherein the plurality of gears comprises a second rack gear and a second pinion gear, the second rack gear and second pinion gear cooperating with, and movable relative to, each other as an incident of the seat moving from the first position into the loaded position.

270. As explained in ¶¶ 265-269, Takamatsu '372 discloses the limitations of claim 2.

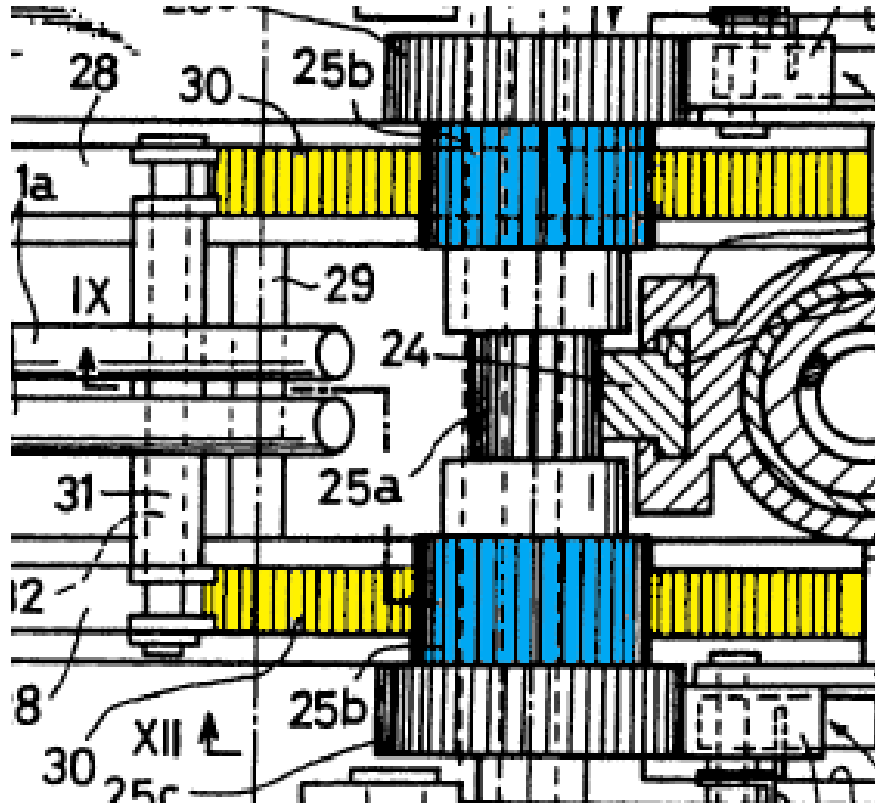
271. In my opinion, Takamatsu '372 discloses wherein the plurality of gears comprises a second rack gear and a second pinion gear, the second rack gear and second pinion gear cooperating with, and movable relative to, each other as an incident of the seat moving from the first position into the loaded position.

272. As discussed above (¶¶ 248-252), as to claim element 1.e, Takamatsu '372 discloses a plurality of gears that cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position. Specifically, Takamatsu '372 teaches that “when the user sits on the seat 4, the seat tail carrier plate 4b of the seat 4 moves downward...thereby rotating the pinion assembly 25...caus[ing] the *second racks 30* in mesh with the *second pinions 25b* to advance with the load applying pin 32.” Ex. 1007, 7:13-24 (emphasis added). A partial, annotated view of Figure 4 depicts the “second racks 30” in yellow, and the “second pinion 25b” in blue. Ex. 1007, Fig. 4.



Ex. 1007, Fig. 4 (annotated).

273. A partial, annotated view of Figure 6, depicts the “second racks 30,” in yellow, in mesh with the “second pinion 25b,” in green. Ex. 1007, Fig. 6.



Ex. 1007, Fig. 6 (annotated).

274. Thus, in my opinion, Takamatsu '372 discloses “wherein the plurality of gears comprises a second rack gear and a second pinion gear, the second rack gear and second pinion gear cooperating with, and movable relative to, each other as an incident of the seat moving from the first position into the loaded position.”

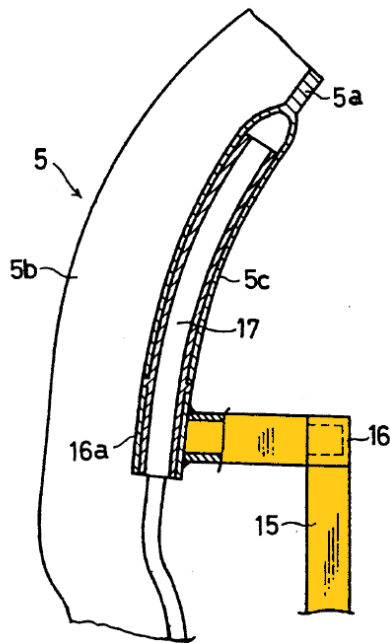
D. DEPENDENT CLAIM 7

The reconfigurable apparatus for seating a user according to claim 1 wherein the back rest is mounted directly to the frame.

275. As explained in ¶¶ 216-264, Takamatsu '372 discloses the limitations of claim 1.

276. In my opinion, Takamatsu '372 discloses wherein the backrest is mounted directly to the frame.

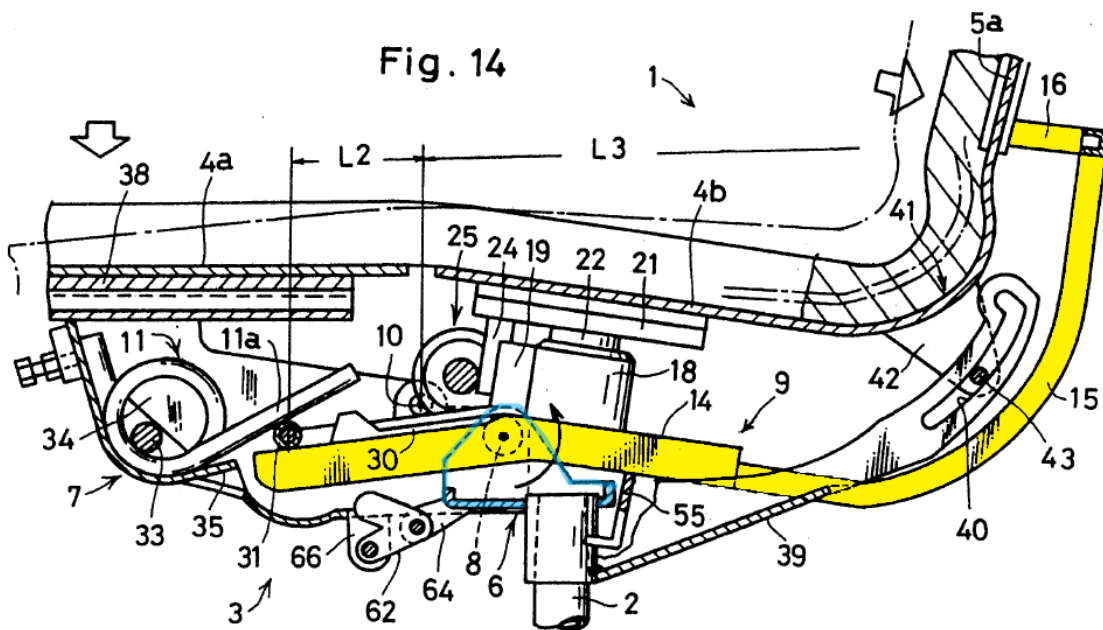
277. Takamatsu '372 discloses that “the seat back 5 is connected to a tiltable member 9,” Ex. 1007, 4:23-24, wherein the “tiltable member 9 includes...generally L-shaped frame bars 15,” Ex. 1007, 4:35-39, which are “fixed to a horizontal connecting bar 16,” Ex. 1007, 4:59-62. A PHOSITA would understand that tiltable member 9, including the L-shaped frame bars 15 and horizontal connecting bar 16, are part of the back rest structure. Figure 1, below, depicts these components in orange. Ex. 1007, Fig. 1; *see id.*, 2:23-26.



Ex. 1007, Fig. 1 (annotated).

278. Further, Takamatsu '372 teaches that “the tiltable member 9 is pivotable about the second pivots 10 relative to the pivotal frame 7 which itself is

pivotable about the first pivots 8 relative to the fixed frame 6.” Ex. 1007, 4:53-56. Where the “fixed frame 6” is part of the claimed “frame” (*see* Section VIII.A.2), and where the “tiltable member 9” is part of the back rest structure, the back rest is mounted directly to the frame. Figure 14, below, shows the “tiltable member 9,” including the “generally L-shaped frame bars 15” and the “horizontal connecting bar 16,” in yellow, and how it is mounted directly to the “fixed frame 6” (outlined in blue). Ex. 1007, Fig. 14.



Ex. 1007, Fig. 14 (annotated).

279. Thus, in my opinion, Takamatsu '372 discloses wherein the backrest is mounted directly to the frame.

E. DEPENDENT CLAIM 15

The reconfigurable apparatus for seating a user according to claim 1 wherein the plurality of gears comprises first and second gears that each turns around an axis and the first and second gears have different diameters.

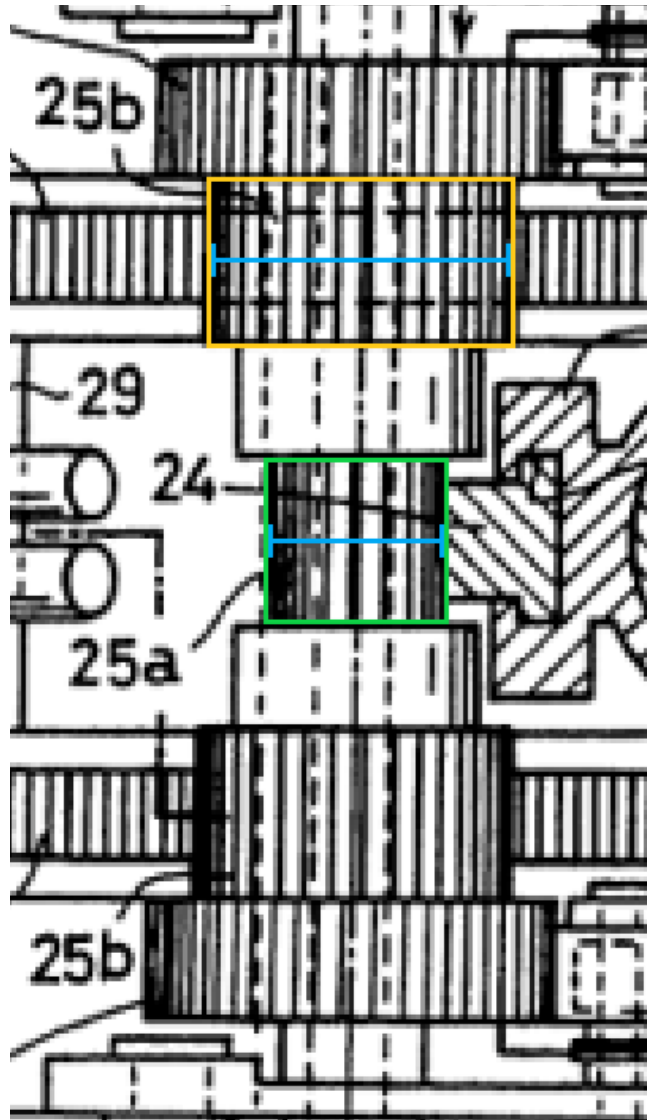
280. As explained in ¶¶ 216-264, Takamatsu '372 discloses the limitations of claim 1.

281. In my opinion, Takamatsu '372 discloses wherein the plurality of gears comprises first and second gears that each turns around an axis and the first and second gears have different diameters.

282. As discussed above (¶ 248), Takamatsu '372 discloses “first pinion 25a” and “second pinions 25b,” which are “mounted on the common shaft 26 for simultaneous rotation,” wherein shaft 26 is the claimed “axis.” Ex. 1007, 8:45-49.

283. Takamatsu '372 further discloses that “the second pinions 25b” are “diametrically larger than the first pinion 25a.” Ex. 1007, 8:45-47. In other words, second pinions 25b have a different diameter from first pinion 25a.

284. A partial view of Figure 6, below, depicts one of the second pinions 25b in orange, the first pinion 25a in green, and the extent of their respective diameters (blue lines). Ex. 1007, Fig. 6.



Ex. 1007, Fig. 6 (annotated).

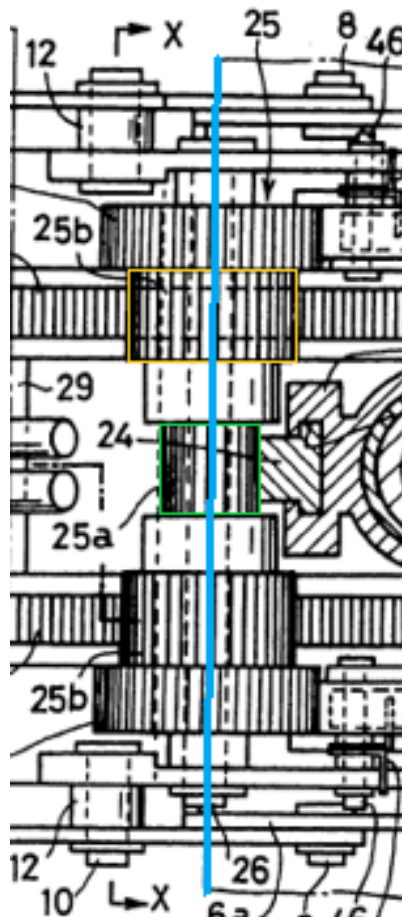
F. DEPENDENT CLAIM 17

The reconfigurable apparatus for seating a user according to claim 15 wherein the first and second gears turn around a same axis.

285. As explained in ¶¶ 280-284, Takamatsu '372 discloses the limitations of claim 15.

286. In my opinion, Takamatsu '372 discloses wherein the first and second gears turn around a same axis.

287. As discussed above, Takamatsu '372 discloses that “the second pinions 25b” and “the first pinion 25a” are “mounted on the common shaft 26 for simultaneous rotation.” Ex. 1007, 8:45-49. A PHOSITA would understand that “the common shaft 26” is the claimed “same axis.” A partial view of Figure 6, below, depicts the first pinion 25a in green and one of the second pinions 25b in orange on the same axis (a blue line) corresponding with common shaft 26. Ex. 1007, Fig. 6.



Ex. 1007, Fig. 6 (annotated).

X. SCHMITZ '738 ANTICIPATES CLAIM 16

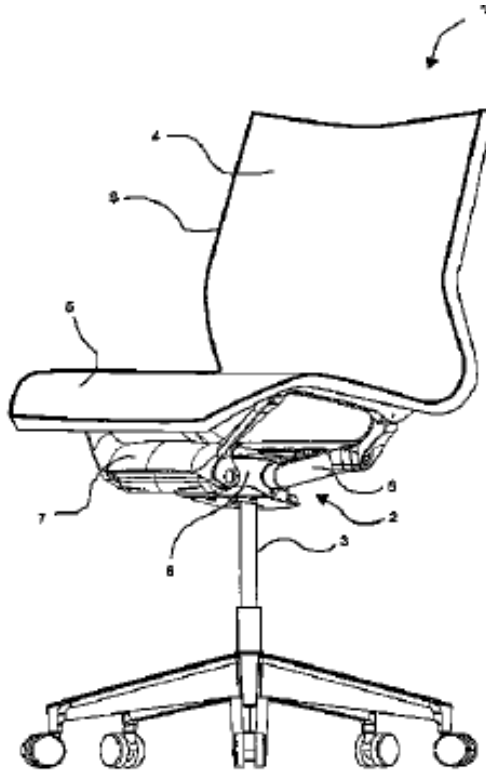
288. For reasons that I will address in more detail below, it is my opinion that Schmitz '738 anticipates claim 16. Because claim 16 depends from independent claim 1 and dependent claim 15, I first address the elements of those claims.

A. INDEPENDENT CLAIM 1

1. [1] A reconfigurable apparatus for seating a user, the reconfigurable apparatus comprising:

289. In my opinion, Schmitz '738 discloses a reconfigurable apparatus for seating a user.

290. Schmitz '738 discloses that “it is an object of the invention to propose a mechanical assembly for a chair, or a chair having a mechanical assembly of this type, respectively, by way of which improved, in particular more responsive or more free-moving tuning or adapting to the body weight of a person is made possible.” Ex. 1008, 1:32-36. In other words, Schmitz '738 discloses a chair, which is an apparatus for seating a user, that is reconfigurable. Figure 1, below, depicts a reconfigurable apparatus as disclosed by Schmitz '738. Ex. 1008, Fig. 1.

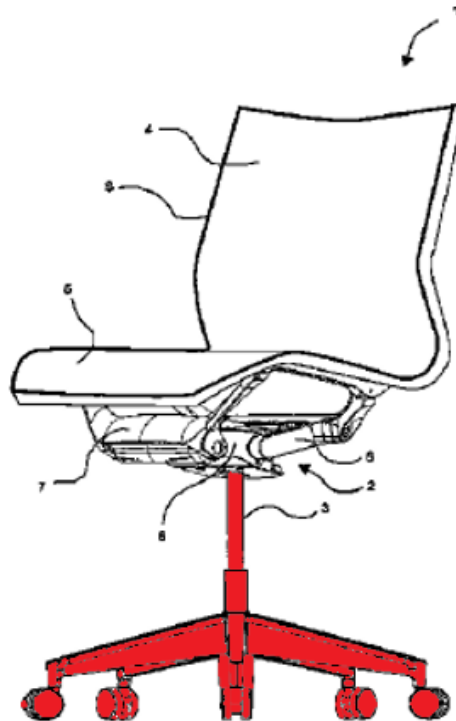


Ex. 1008, Fig. 1.

2. [1.a] a frame

291. In my opinion, Schmitz '738 discloses a frame.

292. Schmitz '738 discloses that the reconfigurable apparatus comprises “a foot element 3, a back element 4, and a seat element 5.” Ex. 1008, 6:54-56. Further, Schmitz '738 explains that a “flange 42” is “connected to the foot element 3.” Ex. 1008, 8:31-35; *see also id.*, 9:12-14 (“the flange 42 [] is fixed onto the foot element 3.”). In my opinion, the “foot element 3” and the “flange 42” comprise the claimed frame. Figure 1, annotated below, depicts the “foot element 3,” in red. Ex. 1008, Fig. 1.



Ex. 1008, Fig. 1 (annotated).

293. Figure 9, annotated below, depicts the “flange 42” in red. Ex. 1008, Fig.

9.

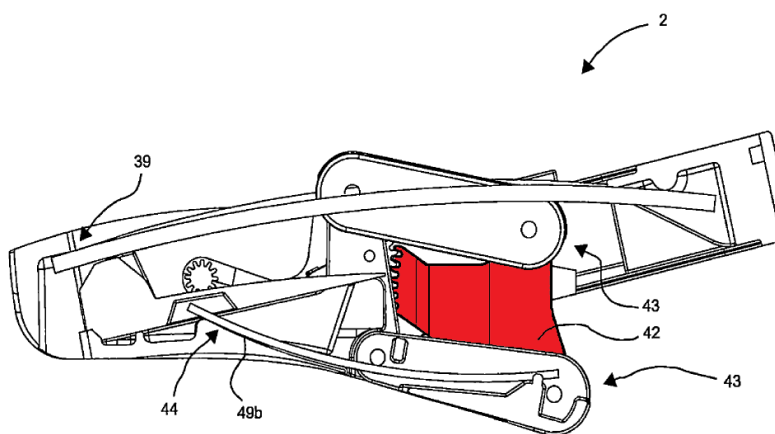


Fig. 9

Ex. 1008, Fig. 9 (annotated).

- 3. [1.b] a seat mounted on the frame and movable relative to the frame between: a) a first position in which the seat resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat;**

294. In my opinion, Schmitz '738 discloses a seat mounted on the frame and movable relative to the frame between: a) a first position in which the seat resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat.

295. First, Schmitz '738 discloses that “seat element 5” is mounted on the frame. As discussed above in Section VI.D.2, it is my opinion that a PHOSITA would understand “a seat mounted on the frame” to mean “a seat mounted directly or indirectly on the frame.”

296. Schmitz '738 explains that the “seat element 5” is mounted on the frame via “front swing arm 7,” “rear swing arm 8,” “support 6,” and “levers 43a, 43b.” In particular, the “front swing arm 7” is “connected to the seat element 5 so as to be pivotable about a rotation axis D65” and is “articulated on the support 6 so as to be pivotable about a rotation axis D67.” Ex. 1008, 6:62-65. In addition, the “rear swing arm 8” is “connected to the seat shell S...so as to be pivotable about a rotation axis D56” and is “articulated on the support 6 so as to be pivotable about a rotation axis D68.” Ex. 1008, 7:8-12.

297. Support 6, in turn, is “articulated on the flange 42” (part of the claimed “frame”) via “articulation means 43,” Ex. 1008, 8:36-37, which takes the form of “two levers 43a, 43b” that “operate in parallel,” *id.*, 10:15-18. Figure 4, annotated below, depicts the “seat element 5” in red, the “front swing arm 7” in green, the “rear swing arm 8” in blue, the “support 6” in yellow, the “articulation means 43” in brown, and the “flange 42” and “foot element 3” in purple. Ex. 1008, Fig. 4.

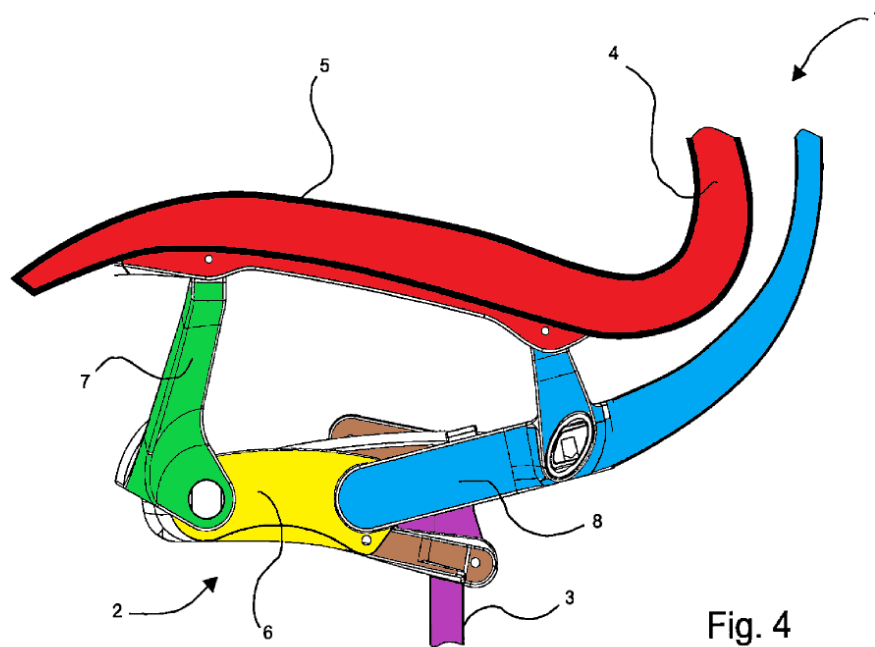
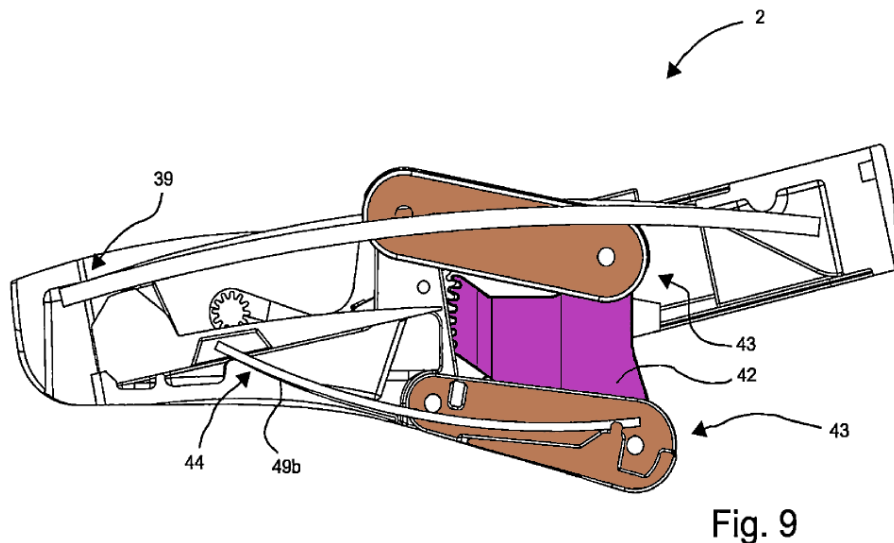


Fig. 4

Ex. 1008, Fig. 4 (annotated).

298. Second, Schmitz '738 discloses that the seat that is movable relative to the frame. As discussed above (§ 296), Schmitz '738 discloses that the “seat element 5” is pivotally connected to “support 6” via the “front swing arm 7” and the “rear

swing arm 8.” Ex. 1008, 6:62-65; 7:8-12. In addition, the “support 6” is mounted on flange 42 (part of the claimed “frame”) such that it can be lowered and raised relative to flange 42. Schmitz ’738 explains that support 6 is “articulated on the flange 42” via “articulation means 43,” wherein “the articulation means 43 is configured as a four-point articulation having four articulation axes.” Ex. 1008, 8:31-42. This “enable[es] the support 6 *to be lowered* when stressed by a person sitting down.” *Id.* (emphasis added). Figure 9, below, depicts the “articulation means 43” in brown, connected to the “flange 42” in purple, which allows the “support 6” to move up and down relative to the frame. Ex. 1008, Fig. 9.

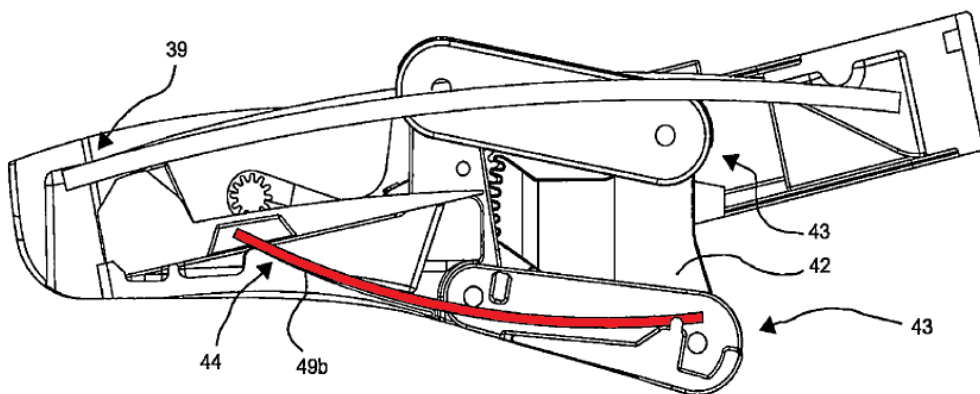


Ex. 1008, Fig. 9 (annotated).

299. Third, Schmitz ’738 discloses that the seat is movable relative to the frame between: a) a first position in which the seat resides with no user sitting on the

seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat.

300. Schmitz '738 explains that support 6 is supported on flange 42 “by way of the weighing means 44,” which takes the form of “further leaf springs or weighing springs 49a, 49b.” Ex. 1008, 8:37-46. Figure 9, below, depicts weighing spring 49b in red. Ex. 1008, Fig. 9.



Ex. 1008, Fig. 9 (annotated).

301. Schmitz '738 explains that “the support 6,” which supports “the seat element 5,” is “lowered when stressed by a person sitting down...until the stress...is compensated for by the weighing means 44.” Ex.1008, 8:41-46. And “[a]s soon as the person stands up again, the weighing springs 49a, 49b raise the support 6 again.” *Id.*, 8:46-48. In this regard, Fig. 12 shows support 6 in the “unstressed position” (no weight acting on the seat), whereas in Fig. 13, support 6 has been “lowered” against the “spring force of the leaf springs 49a, 49b” as a result of “light stress acting on the seat element 5.” Ex. 1008, 9:14-28.

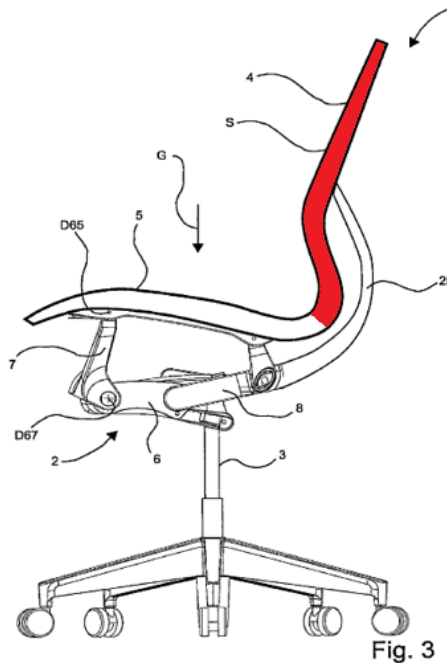
302. In other words, support 6, which supports seat element 5, is movable relative to the frame between an “unstressed position” (i.e. the claimed “first position”) and a “lowered position” (i.e. the claimed “loaded position”) in response to a user sitting down.

303. Thus, in my opinion, Schmitz '738 discloses a seat mounted on the frame and movable relative to the frame between: a) a first position in which the seat resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of a user sitting on the seat.

4. [1.c] a back rest against which a user sitting on the seat can bear his/her back to produce a leaning force that changes an angular orientation of the back rest relative to the frame,

304. In my opinion, Schmitz '738 discloses a backrest against which a user sitting on the seat can bear his/her back to produce a leaning force that changes an angular orientation of the backrest relative to the frame.

305. First, Schmitz '738 discloses a backrest. Schmitz '738 teaches that the seat consists of a “back element 4” and a “seat element 5” that together form “seat shell S.” Ex. 1008, 6:54-57. Figure 3, below depicts the “back element 4” in red. Ex. 1008, Fig. 3.

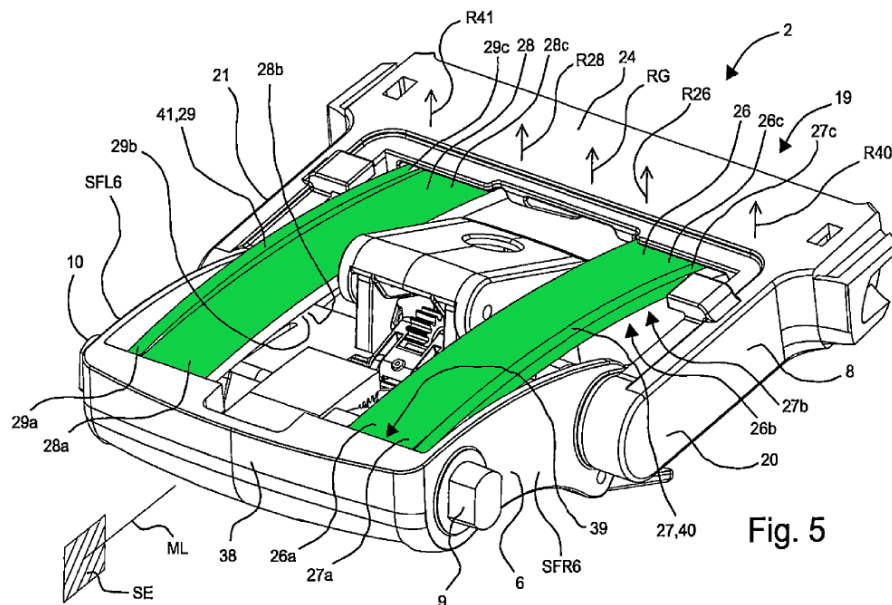


Ex. 1008, Fig. 3 (annotated).

306. Second, Schmitz '738 discloses that a user can bear his/her back against back element 4 to change the angular orientation thereof. As discussed above (¶ 296), seat shell S is pivotally mounted to support 6 via front swing arm 7 and rear swing arm 8. Ex. 1008, 6:62-65, 7:8-12. Thus, a PHOSITA would understand seat shell S, along with back element 4, are capable of being rotated relative to the frame via these pivotal connections.

307. Further, Schmitz '738 discloses leaf springs that resist this rotation. In particular, Schmitz '738 discloses “four leaf springs 26, 27, 28, and 29,” Ex. 1008, 7:26-28, that are “fixed to the support 6,” Ex. 1008, 8:4-8, and that “indirectly support the seat shell S [and] directly support the rear swing arm 8,” Ex. 1008, 8:9-

15. Figure 5, below, depicts the “leaf springs 26, 27, 28, and 29” in green. Ex. 1008, Fig. 5.

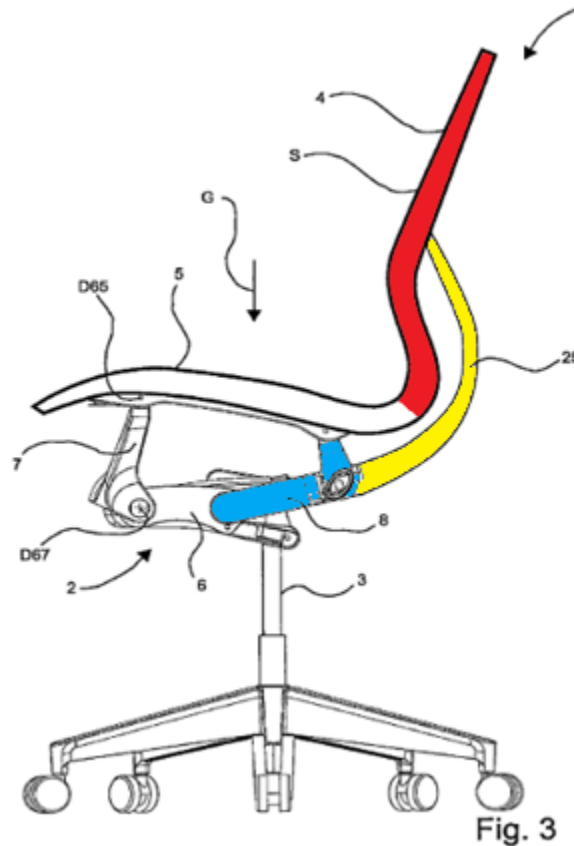


Ex. 1008, Fig. 5 (annotated).

308. Schmitz '738 explains that, in sum, the four leaf springs provide a “total restoring force,” by which “swing arm 8 supports the seat shell S.” Ex. 1008, 8:17-22.

309. By supporting rear swing arm 8, the leaf springs resist tilting of seat shell S and back element 4. As discussed above (§ 296), “rear swing arm 8” is connected to the “seat shell S,” Ex. 1008, 7:8-12, wherein the “seat shell S” comprises the “back element 4” and the “seat element 5,” Ex. 1008, 6:54-56. Moreover, the “back element 4” is directly connected to the “rear swing arm 8” via

an “appendage 25.” Ex. 1008, 7:20-25. Figure 3, below, demonstrates this connection, depicting the “rear swing arm 8” in blue, the “appendage 25” in yellow, and the “back element 4” in red. Ex. 1008, Fig. 3.



Ex. 1008, Fig. 3 (annotated).

310. In view of the pivotal connection between seat shell S and support 6, and in view of the leaf springs that support rear swing arm 8 (which is also attached directly to back element 4), a PHOSITA would understand that a user can bear his/her back against back element 4 to change the angular orientation thereof.

311. Thus, in my opinion, Schmitz '738 discloses “a back rest against which a user sitting on the seat can bear his/her back to produce a leaning force that changes an angular orientation of the back rest relative to the frame.”

5. [1.d] the apparatus configured so that a first leaning force is required to be applied to the back rest to change the angular orientation of the back rest from a starting angular position relative to the frame with no user sitting in the seat;

312. In my opinion, Schmitz '738 discloses the apparatus configured so that a first leaning force is required to be applied to the backrest to change the angular orientation of the backrest from a starting angular position relative to the frame with no user sitting in the seat.

313. As discussed above (§ 296), Schmitz '738 discloses that seat shell S, including back element 4, is pivotally connected to support 6 via front swing arm 7 and rear swing arm 8 (which is also connected to back element 4). Ex. 1008, 6:62-65, 7:8-12.

314. Further, Schmitz '738 discloses four leaf springs 26, 27, 28, 29 that support rear swing arm 8 in order to resist tilting of seat shell S and back element 4 via a “total restoring force.” Ex. 1008, 8:17-22.

315. In other words, the leaf springs provide a “total restoring force” that supports the pivotable “rear swing arm 8,” which is connected to both seat shell S and back element 5. From this disclosure, a PHOSITA would understand that a “first

leaning force” is required to be applied to the backrest to change the angular orientation thereof with no user sitting in the seat.

- 6. [1.e] and an adjusting assembly comprising a plurality of gears that cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position and configured to thereby increase a resistance to changing of the angular orientation of the back rest from the starting angular position,**

316. In my opinion, Schmitz '738 discloses an adjusting assembly comprising a plurality of gears that cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position and configured to thereby increase a resistance to changing of the angular orientation of the backrest from the starting angular position. It is my opinion that Schmitz '738 discloses this limitation regardless of whether “adjusting assembly” is construed as a means-plus-function claim limitation.

317. First, Schmitz '738 discloses a plurality of gears. In particular, Schmitz '738 discloses “a gear wheel 50...which is rotatably mounted on the support 6” that “meshes with a rack 51 which is configured on the flange 42.” Ex. 1008, 9:19-22.

318. In addition, Schmitz '738 discloses “second gear wheel 53,” which is connected to gear wheel 50 via “articulated lever 52,” and which “runs between a further rack 54 which is configured on the support 6 and a rack 55 which is configured on the displaceable bearing 34.” Ex. 1008, 9:31-41. Figure 12, below,

depicts rack 51 in green, gear wheel 50 in blue, second gear wheel 53 in purple, rack 54 in orange, and rack 55 in red. Ex. 1008, Fig. 12.

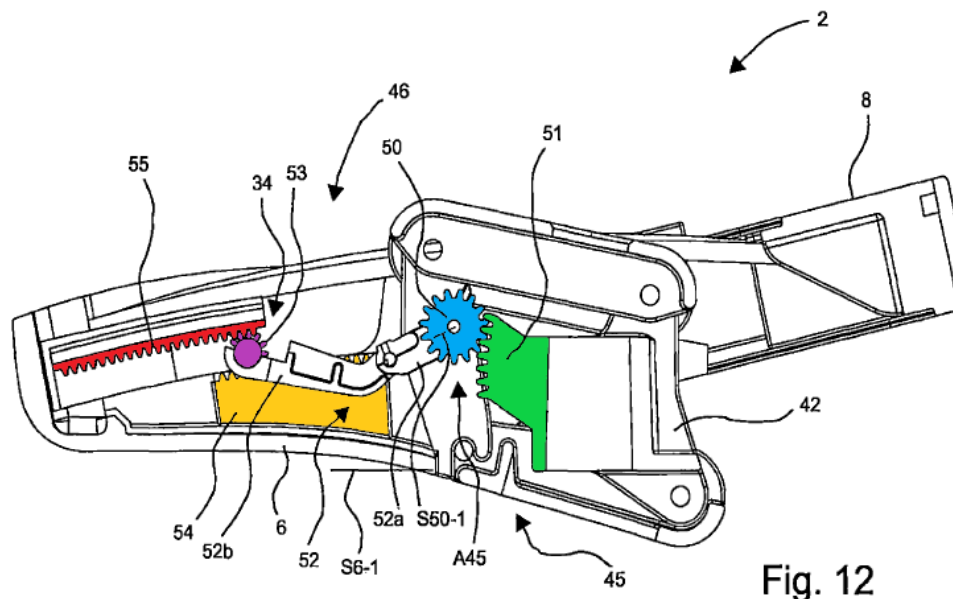


Fig. 12

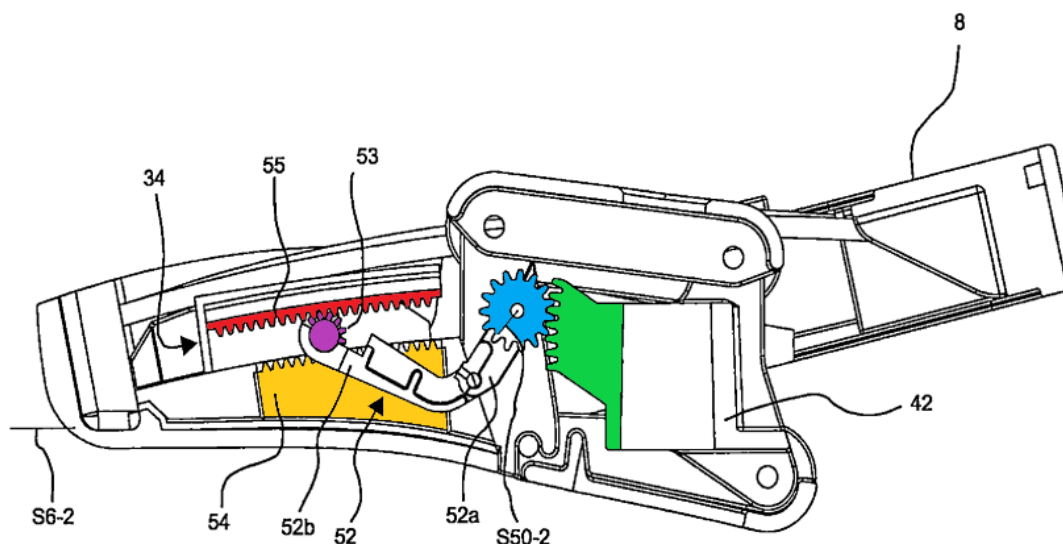
Ex. 1008, Fig. 12 (annotated).

319. Second, Schmitz '738 discloses that the plurality of gears cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position.

320. Schmitz '738 explains that “[i]n the event of light stress acting on the seat element 5,” which causes support 6 to be “lowered in relation to the flange 42”—i.e., the seat moving from the first position into the loaded position—the “gear wheel 50 is driven by the rack 51 and rotates in an anticlockwise manner.” Ex. 1008, 9:23-30. This, in turn, causes articulated lever 52, which is “rigidly connected to the gear wheel 50” and which “rotatably supports a further gear wheel 53,” to “slightly

buckle.” Ex. 1008, 9:31-37. This buckling causes gear wheel 53 to “roll[] on the lower rack 54” and move closer to gear wheel 50. Ex. 1008, 9:37-41. Finally, “on account of its right-hand rotation and its change of position, the second gear wheel 53 moves the third rack 55...to the right in the direction of the flange 42.” Ex. 1008, 9:41-44.

321. The annotation of Figure 13 below, in which support 6 has been lowered relative to flange 42 and second gear wheel 53 and second rack 50 have moved to the right, depicts rack 51 in green, gear wheel 50 in blue, second gear wheel 53 in purple, rack 54 in orange, and rack 55 in red. Ex. 1008, Fig. 13.

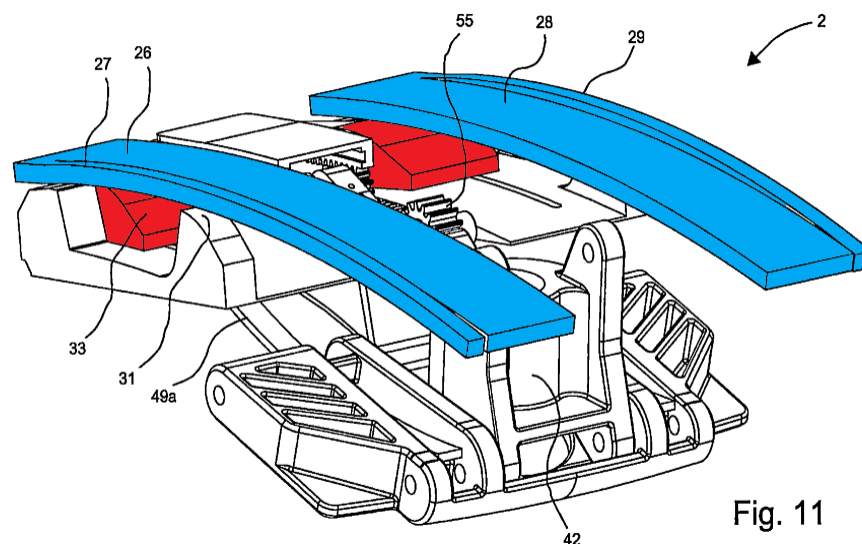


Ex. 1008, Fig. 13 (annotated).

322. Third, Schmitz '738 discloses that, as an incident of the seat moving from first position into a loaded position, the plurality of gears are configured to

thereby increase a resistance to changing of the angular orientation of the backrest from the starting angular position.

323. As discussed above (¶¶ 307-308, 314), Schmitz '738 discloses four leaf springs 26, 27, 28, 29 that support rear swing arm 8 and that resist tilting of seat shell S and back element 4. Ex. 1008, 7:26-28; 8:4-15. Schmitz '738 further explains that the two “internal leaf springs 26, 28” are supported by “displaceable bearings 33, 34,” Ex. 1008, 8:23-30, which are connected to rack 55, Ex. 1008, 9:40-41. Figure 11, annotated below, depicts the location of bearings 33 and 34 in red, in relation to leaf springs 26, 27, 28, and 29 in blue. Ex. 1008, Fig. 11.



Ex. 1008, Fig. 11 (annotated).

324. As described in more detail below, as an incident of a user sitting in the seat, the plurality of gears discussed above displace bearings 33, 34 such that leaf springs 26, 28 provided a greater resistance to the tilting of the back element 4. That

is, “the displaceable bearings 33, 34...are simultaneously displaced...along their raceways 36, 37 in such a manner that the seat shell S is supported by way of the rear swing arm 8 on the support 6 to a degree so as to correspond to the body weight G of the person.” Ex. 1008, 8:53-60. In other words, “an adjustment of the restoring force by which the chair counteracts the movements of the person—such as leaning back, for example—is performed by way of the body weight of a person seated on the chair.” Ex. 1008, 9:5-11.

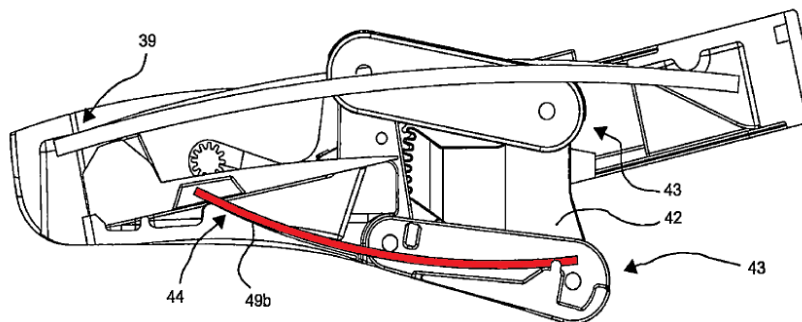
325. To that end, via the cooperation of the gears discussed above, whereby gear wheel 50 is driven by rack 51 in response to a user sitting in the seat and, in turn, drives second gear wheel 53 to the right, “second gear wheel 53 moves the third rack 55 and thus the bearing 34”—which is connected to rack 55—“to the right in the direction of the flange 42, such that the leaf spring 28 which is assigned to the bearing 34 is subject to increasing support and, on account thereof, exerts a greater restoring force on the rear swing arm 8.” Ex. 1008, 9:41-47. Likewise, a “transmission 47...comprises all the components mentioned, such that [] the other bearing 33 is [also] movable.” Ex. 1008, 9:64-10:2. In other words, bearing 33 is similarly driven to the right in response to a user sitting on the seat, such that leaf spring 26 also provides a greater restoring force on the rear swing arm 8.

326. In short, a user sitting in the seat causes displaceable bearings 33 and 34 to move toward the free end of leaf springs 26 and 28, thereby shortening their

effective length. This, in turn, increases the amount of force required to pivot seat shell S and back element 4 thereof, which are supported by the leaf springs.

327. Thus, a PHOSITA would understand that when a person sits on the seat, moving the seat from the first position into the loaded position, the plurality of gears move and cooperate in a manner that increases a resistance to changing of the angular orientation of the backrest from the starting angular position, as claimed.

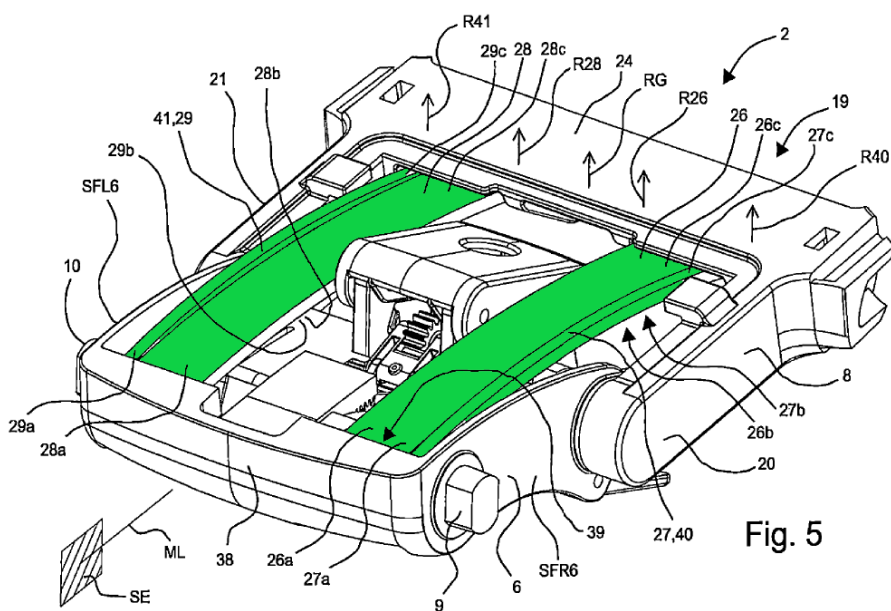
328. Finally, in the event that “adjusting assembly” is construed as an MPF claim term, it is my opinion that Schmitz '738 discloses the claimed “adjusting assembly.” As discussed above in Section VI.D.1, it is my opinion that “adjusting assembly” is an MPF claim term. Schmitz '738 discloses this claim term because it discloses the same or equivalent structures that provide the same function. In particular, Schmitz '738 discloses weighing springs 49a, 49b, Ex. 1008, 8:37-46, that are equivalent to the coil spring 33 disclosed in the DeJule '753 Patent. Fig. 9 of Schmitz '738, annotated below, shows weighing spring 49b in red. Ex. 1008, Fig. 9.



Ex. 1008, Fig. 9 (annotated).

329. Any differences between weighing springs 49a, 49b and coil spring 33 are insubstantial. Indeed, both structures provide the same function in substantially the same way (resiliently flexing against a weight force) to provide substantially the same result (providing variable resistance to that force).

330. Moreover, Schmitz '738 discloses “leaf springs 26, 27, 28, and 29,” Ex. 1008, 7:26-28, that are the same as leaf spring 19 disclosed in the DeJule '753 Patent. Fig. 5, annotated below, shows the leaf springs 26, 27, 28, 29 in green. Ex. 1008, Fig. 5.



Ex. 1008, Fig. 5 (annotated).

331. Finally, as discussed above (§§ 322-327), weighing springs 49a, 49b and leaf springs 26, 27, 28, 29 cooperate to provide the claimed function of

configured to increase a resistance to changing of the angular orientation of the backrest from the starting angular position. Accordingly, in my opinion, Schmitz '738 discloses the claimed “adjusting assembly.”

332. Therefore, in my opinion, Schmitz '738 discloses an adjusting assembly comprising a plurality of gears that cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position and configured to thereby increase a resistance to changing of the angular orientation of the backrest from the starting angular position.

7. **[1.f] whereby as an incident of a user sitting on the seat a leaning force greater than the first leaning force is required to change the angular position of the back rest from the starting angular position.**

333. In my opinion, Schmitz '738 discloses whereby as an incident of a user sitting on the seat a leaning force greater than the first leaning force is required to change the angular position of the backrest from the starting angular position.

334. As discussed above (§ 320), a user sitting in seat element 5 causes support 6 to be lowered relative to flange 42. As a result, rack 51 drives gear wheel 50, which, in turn, causes articulated level 52 to buckle, thereby pulling second gear wheel 53 towards gear wheel 50. As a result of the movement and rotation of second gear 53, a rack 55, which is connected to displaceable bearings 33 and 34, also moves towards gear wheel 50 and towards the free ends of leaf springs 26, 28. This, in turn,

shortens the effective length of leaf springs 26 and 28, which support rear swing arm 8. Leaf springs 26 and 28 thus provide “a greater restoring force on the rear swing arm 8.” Ex. 1008, 9:41-47.

335. Moreover, as discussed above (¶¶ 308-309), because back element 5 pivots with seat shell S, which is directly connected to rear swing arm 8, and because back element 5 is also directly connected to rear swing arm 8 via appendage 25, a PHOSITA would understand that a “greater restoring force on the rear swing arm 8” means that a greater leaning force is required to change the angular orientation of back element 5 from its starting position.

B. DEPENDENT CLAIM 15

The reconfigurable apparatus for seating a user according to claim 1 wherein the plurality of gears comprises first and second gears that each turns around an axis and the first and second gears have different diameters.

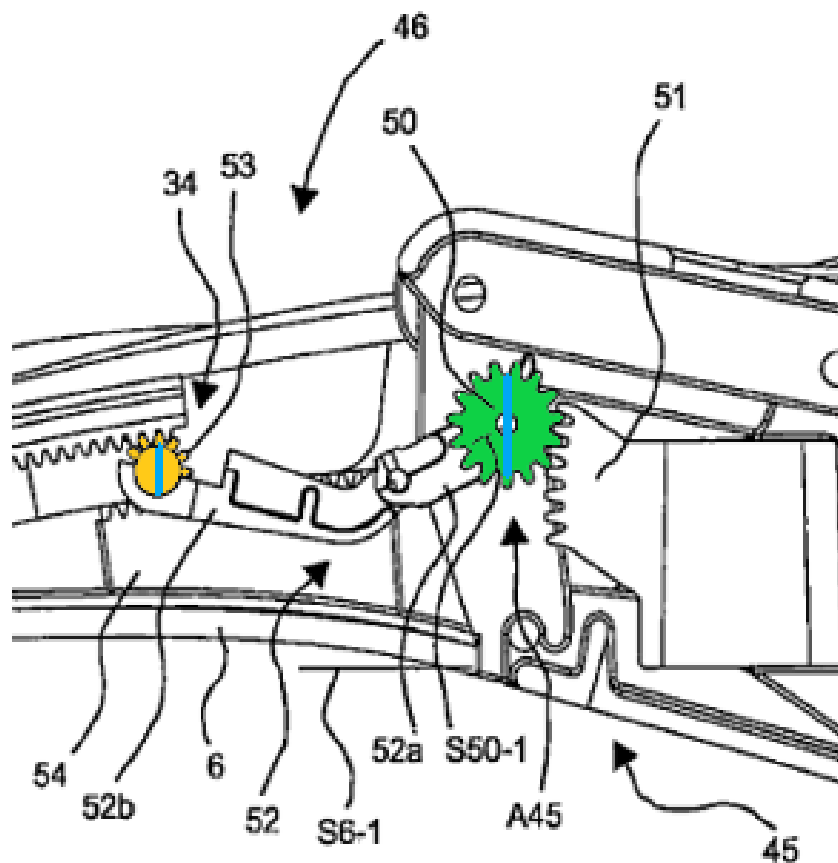
336. As explained in ¶¶ 289-335, Schmitz ’738 discloses the limitations of claim 1.

337. In my opinion, Schmitz ’738 discloses wherein the plurality of gears comprises first and second gears that each turns around an axis and the first and second gears have different diameters.

338. As discussed above, Schmitz ’738 discloses “gear wheel 50” and “gear wheel 53.” Ex. 1008, 9:19-20; 9:35-36. Schmitz ’738 further discloses that these

gears each turn around an axis: “gear wheel 50 is driven by the rack 51 and rotates,” Ex. 1008, 9:28-29, and the “second gear wheel 53...rolls on the lower rack 54,” Ex. 1008, 9:38-41.

339. A partial view of Figure 12, annotated below, depicts gear wheel 50 in green, and second gear wheel 53 in orange, and shows that their diameters (blue lines) are different. Ex. 1008, Fig. 12.



Ex. 1008, Fig. 12 (annotated).

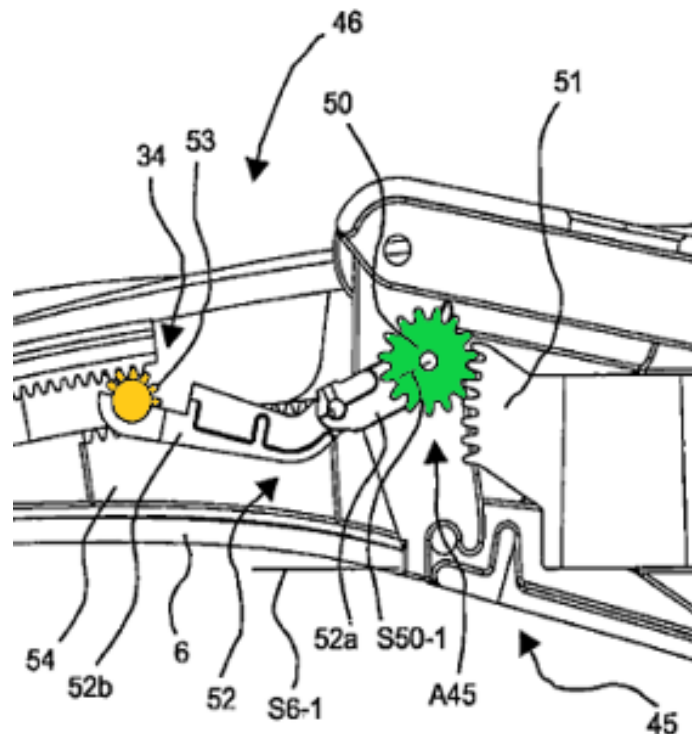
C. DEPENDENT CLAIM 16

The reconfigurable apparatus for seating a user according to claim 15 wherein the first and second gears turn around different axes.

340. As explained in ¶¶ 336-339, Schmitz '738 discloses the limitations of claim 15.

341. In my opinion, Schmitz '738 discloses wherein the first and second gears turn around different axes.

342. A partial view of Figure 12, below, shows gear wheel 50 in green, and second gear wheel 53 in orange, and shows that they are on different axes. Ex. 1008, Fig. 12.



Ex. 1008, Fig. 12 (annotated).

[illegible]

165

XI. ACKNOWLEDGEMENT

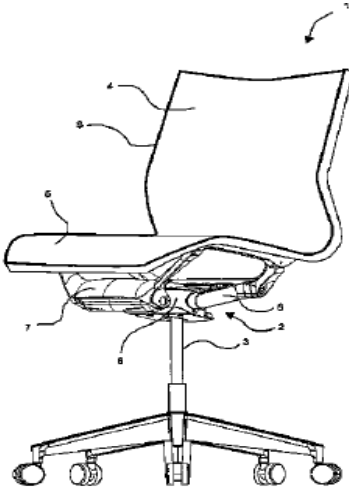
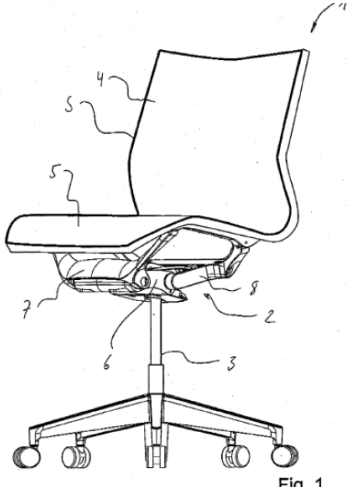
I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed on September 20, 2023



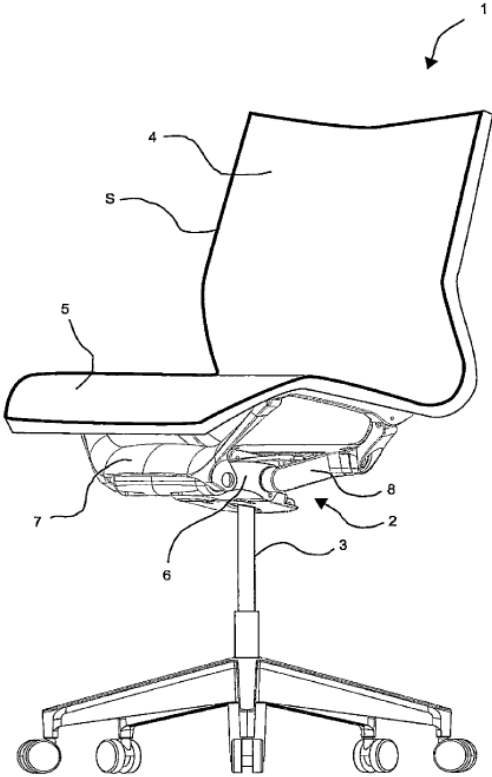
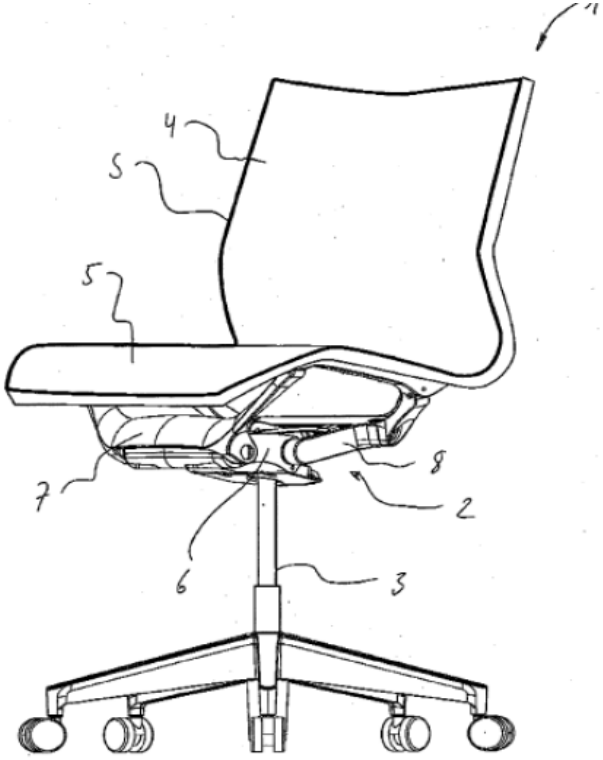
Marcus C. Koepke

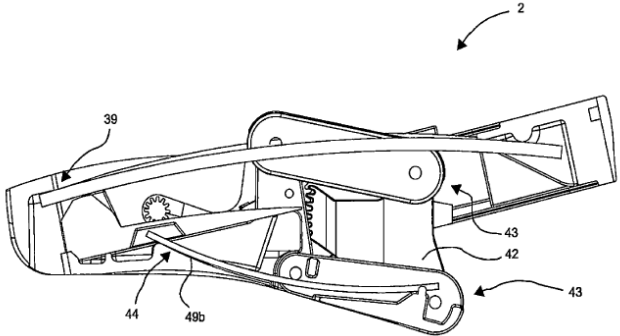
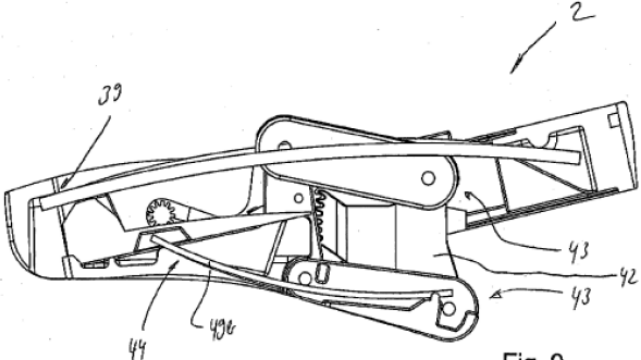
Appendix A

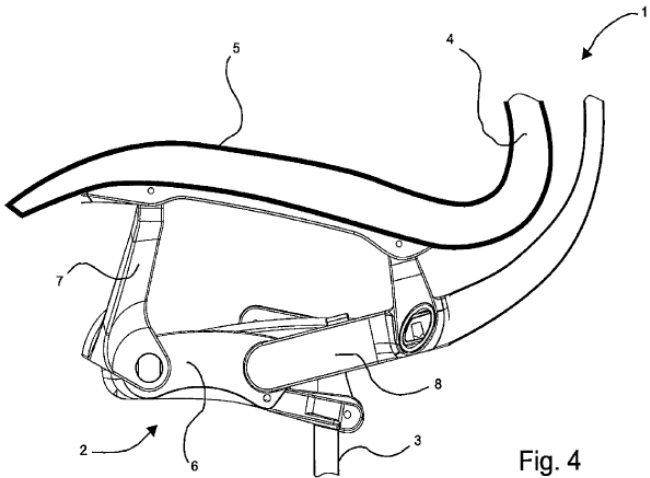
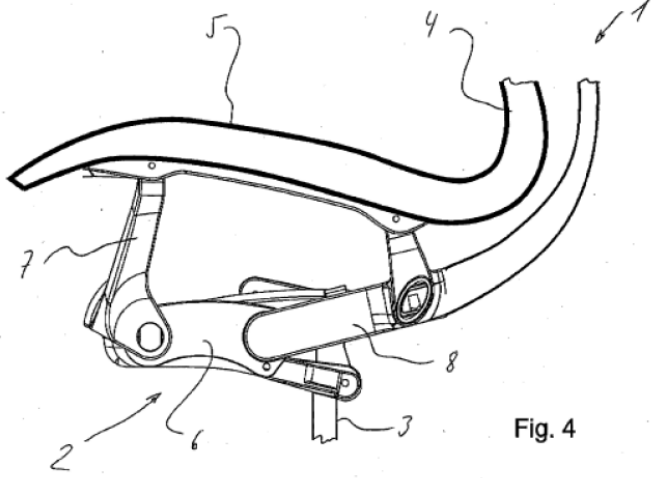
'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
Claim 1		
1. A reconfigurable apparatus for seating a user, the reconfigurable apparatus comprising:	Fig. 1.  --- 1:32–36: “It is an object of the invention to propose a mechanical assembly for a chair, or a chair having a mechanical assembly of this type, respectively, by way of which improved, in particular more responsive or more free-moving tuning or adapting to the body weight of a person is made possible.”	DE'156, Fig. 1:  --- DE'156, [0003]¹: “It is the object of the invention to propose a mechanical functional group for a chair, or a chair having a mechanical functional group of this type, by way of which improved, in particular more precise or more free-moving tuning or adapting to the body weight of a person is made possible.”

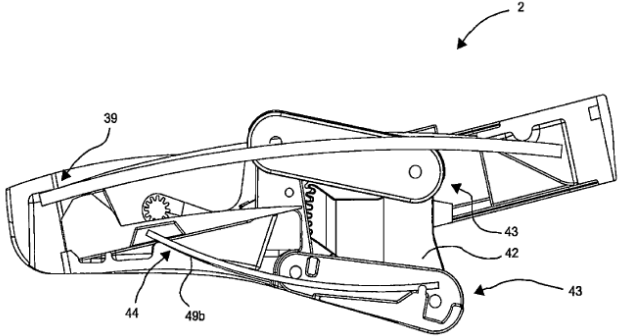
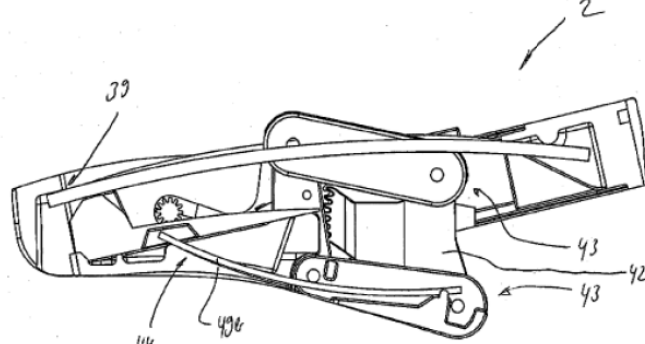
¹ Citations to written description in DE'156 are to the certified English translation thereof (Ex. 1011).

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
a frame;	6:54–56: “As is shown in particular in FIGS. 1 to 6, a foot element 3, a back element 4, and a seat element 5 are articulatable on the mechanical assembly 2 for the chair 1.” --- 8:32–36: “the mechanical assembly 2 in addition to the support 6 further comprises a flange 42 (see FIG. 18)...The flange 42 here is connected to the foot element 3.” --- 9:12–14: Fig. 12 shows a longitudinal section through the mechanical assembly 2, wherein the flange 42 which is fixed onto the foot element 3 is identifiable.” ---	DE'156, [0027]: “As is shown in particular in Figs. 1 to 6, a foot element 3, a back element 4, and a seat element 5 are articulatable on the mechanical functional group 2 for the chair 1.” --- DE'156, [0036]: “The support 6 is indirectly connected to the foot element 3, wherein the mechanical functional group 2 further comprises a flange 42 in addition to the support 6 (see Fig. 18). . . . The flange 42 is connected to the foot element 3 here.” --- DE'156, [0039]: “Fig. 12 shows a longitudinal section through the mechanical functional group 2, wherein the flange 42 which is fixed onto the foot element 3 is identifiable.” ---

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
	Fig. 1:  Fig. 1 ---	DE'156, Fig. 1:  Fig. 1 ---

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
	Fig. 9:  Fig. 9	DE'156, Fig. 9:  Fig. 9
a seat mounted on the frame and movable relative to the frame between: a) a first position in which the seat resides with no user sitting on the seat; and b) a loaded position into which the seat moves from the first position as an incident of	6:62–65: “The front swing arm 7 is articulated on the support 6 so as to be pivotable about a rotation axis D67 and is connected to the seat element 5 so as to be pivotable about a rotation axis D65” --- 7:8–12: “The rear swing arm 8 (see in particular Fig. 2) is articulated on the support 6 so as to be pivotable about a rotation axis D68 and connected to the seat shell S, wherein the support 6 is connected to the seat element 5 so as to be pivotable about a rotation axis D56.” ---	DE'156, [0028]: “The front swing arm 7 is articulated on the support 6 so as to be pivotable about a rotation axis D67 and is connected to the seat element 5 so as to be pivotable about a rotation axis D65 . . .” --- DE'156, [0029]: “The rear swing arm 8 (see in particular Fig. 2) is articulated on the support 6 so as to be pivotable about a rotation axis D68 and connected to the seat shell S, wherein the support 6 is connected to the seat element 5 so as to be pivotable about a rotation axis D56.” ---

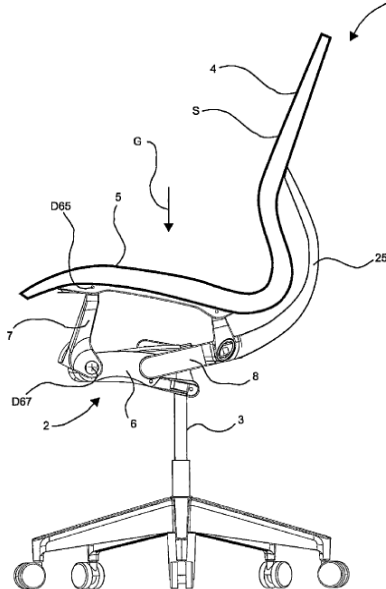
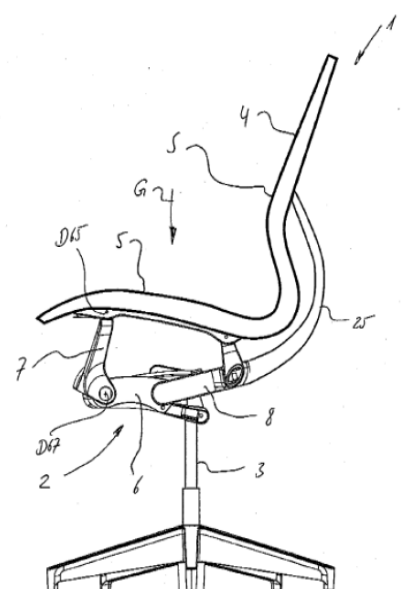
'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
a user sitting on the seat;	Fig. 4:  Fig. 4 --- 8:31–48: “The support 6 is indirectly connected to the foot element 3, wherein the mechanical assembly 2...further comprises a flange 42 (see FIG. 18), an articulation means 43 (see FIG. 9), and a weighing means 44 (see FIG. 19). The flange 42 here is connected to the foot element 3. The support 6 here by way of the articulation means 43 is articulated on the flange 42, and the support 6 here by way of the weighing means 44 is supported on the flange 42 (see FIG. 9). The articulation means 43 is configured as a four-point articulation having four articulation axes	DE'156, Fig. 4:  Fig. 4 --- DE'156, [0014]: “Furthermore, it is provided that the support is indirectly connected to the foot element, wherein the mechanical functional group further comprises, in addition to the support, a flange, an articulation means, and a weighing means, wherein the flange is connected to the foot element, wherein the support by way of the articulation means is articulated on the flange, wherein the support by way of the weighing means is supported on the flange. On account of this construction design, a mechanical weighing action is realized, by way of which the body weight of a person

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
	GLA-1 to GLA-4, this enabling the support 6 to be lowered when stressed by a person sitting down. The support 6 herein sinks down so far until the stress on the former is compensated for by the weighing means 44 which is formed by the further leaf springs or weighing springs 49a, 49b, respectively (see also Fig. 19). As soon as the person stands up again, the weighing springs 49a, 49b raise the support 6 again." --- 10:15–18: "The support 6 is guided on the flange 42 by way of the articulation means 43, these being implemented as two levers 43a, 43b which operate in parallel." --- Fig. 9:  Fig. 9	seated on the chair or sitting down on the chair, is detectable. --- DE'156, [0042]: "The support 6 is guided on the flange 42 by way of the articulation means 43, these being implemented as two levers 43a, 43b which operate in parallel." --- DE'156, Fig. 9:  Fig. 9

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
	--- 9:14–28: “By way of the weighing means 44 which is visible in Figs. 9 and 19, respectively, and which is configured by the two further leaf springs 49a, 49b, the support 6, by which the seat shell S (not illustrated) is supported, is held in the unstressed position S6-1 which is shown in Fig. 12. Here, a gear wheel 50 of the mechanical adjustment action 46, which is rotatably mounted on the support 6, meshes with a rack 51 which is configured on the flange 42, together with the latter forming a drive A45 for the transmissions 47, 48. In the event of light stress acting on the seat element 5 or the seat shell S, respectively, the support 6, counter to the spring force of the leaf springs 49a, 49b, is lowered in relation to the flange 42 into the position S6-1 which is shown in Fig. 13.	--- DE'156, [0039]: “By way of the weighing means 44, which is visible in Figs. 9 and 19, and which is designed as two further leaf springs 49a, 49b, the support 6, by which the seat shell S (not illustrated here) is supported, is held in the unstressed position S6-1 shown in Fig. 12. A gear wheel 50 of the mechanical adjustment action 46, which is rotatably mounted on the support 6, meshes with a rack 51 formed on the flange 42 here. In the event of light stress acting on the seat element 5 or the seat shell S, the support 6, counter to the spring force of the leaf springs 49a, 49b, is lowered in relation to the flange 42 into the position S6-1 shown in Fig. 13.”
a back rest against which a user sitting on the seat can bear his/her back to produce a leaning force that changes an angular orientation of the back rest relative to the	1:10–14: “Figs. 2a and 2b therein disclose a mechanical assembly for a chair, wherein a foot element, a back element, and a seat element are articulatable on the mechanical assembly, wherein the back element and the seat element form a seat shell.” --- 1:37–43: “The mechanical assembly according to the invention is configured in such a manner that it either comprises at least one further spring element, wherein the elastic restoring force of the at least one further spring element and the elastic restoring force of the leaf	DE'156, [0002]: “Figs. 2a and 2b therein disclose a mechanical functional group for a chair, wherein a foot element, a back element, and a seat element are articulatable on the mechanical functional group, wherein the back element and the seat element form a seat shell. --- DE'156, [0005]: “The mechanical functional group according to the invention is configured in such a manner that it . . . either comprises at least one further spring element, wherein the elastic restoring force of the at least one further spring element and the elastic restoring force of

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
frame,	spring or the leaf springs supports the seat shell by way of a total restoring force;” --- 6:54–57: “As is shown in particular in FIGS. 1 to 6, a foot element 3, a back element 4, and a seat element 5 are articulatable on the mechanical assembly 2 for the chair 1. Here, the back element 4 and the seat element 5 form a seat shell S.” --- 6:62–65: “The front swing arm 7 is articulated on the support 6 so as to be pivotable about a rotation axis D67 and is connected to the seat element 5 so as to be pivotable about a rotation axis D65” --- 7:8–12: “The rear swing arm 8 (see in particular Fig. 2) is articulated on the support 6 so as to be pivotable about a rotation axis D68 and connected to the seat shell S, wherein the support 6 is connected to the seat element 5 so as to be pivotable about a rotation axis D56.” --- 7:20–25: “Here the first and the second legs 20, 21 are connected to the support 6, the legs 22, 23 here are connected to the seat element 5, and the appendage 25 here is connected to the back element 4, such that the rear swing arm 8 is connected to both the seat element 5 and the back element 4.”	the leaf spring or the leaf springs supports the seat shell by way of a total restoring force;” --- DE'156, [0027]: “As is shown in particular in Figs. 1 to 6, a foot element 3, a back element 4, and a seat element 5 are articulatable on the mechanical functional group 2 for the chair 1. Here, the back element 4 and the seat element 5 form a seat shell S.” --- DE'156, [0028]: “The front swing arm 7 is articulated on the support 6 so as to be pivotable about a rotation axis D67 and is connected to the seat element 5 so as to be pivotable about a rotation axis D65 . . .” --- DE'156, [0029]: “The rear swing arm 8 (see in particular Fig. 2) is articulated on the support 6 so as to be pivotable about a rotation axis D68 and connected to the seat shell S, wherein the support 6 is connected to the seat element 5 so as to be pivotable about a rotation axis D56.” --- DE'156, [0029]: “The first and the second leg 20, 21 are connected to the support 6 here, the legs 22, 23 are connected to the seat element 5, and the appendage 25 is connected to the back element 4, such that the rear swing arm 8 is connected to both the seat element 5 and the back element 4.”

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
	--- 7:26–28: “In order for a body weight G of a person (not illustrated) seated on the chair 1 to be compensated for, the mechanical assembly 2 comprises four leaf springs 26, 27, 28, and 29.” --- 8:4–15: “Both the internal leaf springs 26, 28 as well as the external leaf springs 27, 29 (see Fig. 5) by way of a first end region 26a, 27a, 28a, 29a are fixed to the support 6 in a receptacle 39 on the bulkhead 38 which is disposed between the axle journals 9, 10. Outside their end regions 26a, 27a, 28a, 29a the leaf springs 26, 27, 28, and 29 bear in each case by way of a lower side 26b, 27b, 28b, 29b on the respectively assigned bearing 33, 31, 34, 32 and by way of opposite end regions 26c, 27c, 28c, 29c indirectly support the seat shell S or directly support the rear swing arm 8 on the cross brace 24 thereof (see FIG. 5).” --- 8:16–22: “The external leaf springs 27, 29 of the mechanical assembly 2 form further spring elements 40, 41. Here, the elastic restoring force R40, R41 of the two further spring elements 40, 41, and the elastic restoring force R26, R28 of the two internal leaf springs 26, 28, add up to a total restoring force RG which by way of the swing arm 8 supports the seat shell S.” ---	--- DE'156, [0030]: “In order for a body weight G of a person (not illustrated) seated on the chair 1 to be compensated for, the mechanical functional group 2 comprises four leaf springs 26, 27, 28, and 29.” --- DE'156, [0032]–[0033]: “The internal leaf springs 26, 28 as well as the external leaf springs 27, 29 (see Fig. 5) are fixed by way of a first end region 26a, 27a, 28a, 29a to the support 6 in a receptacle 39 in a bulkhead 38 which is disposed between the axle journals 9, 10. Outside their end regions 26a, 27a, 28a, 29a the leaf springs 26, 27, 28, and 29 each bear, with a lower side 26b, 27b, 28b, 29b on the respective bearings 33, 31, 34, 32 assigned to them, and indirectly support, by way of opposite end regions 26c, 27c, 28c, 29c, the seat shell S or directly support the rear swing arm 8 on the cross brace 24 thereof (see Fig. 5).” --- DE'156, [0034]: “The external leaf springs 27, 29 of the mechanical functional group 2 form further spring elements 40, 41. The elastic restoring force R40, R41 of the two further spring elements 40, 41, and the elastic restoring force R26, R28 of the two internal leaf springs 26, 28 here add up to a total restoring force RG which supports the seat shell S by way of the swing arm 8.” ---

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
	Fig. 3:  Fig. 3	DE'156, Fig. 3:  Fig. 3
the apparatus configured so that a first leaning force is required to be applied to the back rest to change the angular orientation of the back rest from a starting	9:5–11: “With respect to the fundamental function of a weighing mechanism in which an adjustment of the restoring force by which the chair counteracts the movements of the person—such as leaning back, for example—is performed by way of the body weight of a person seated on the chair, reference is made in principle to WO 2007/110732 A2 which has already been referred to in the introduction to the description.” ---	DE'156, [0038]: “With respect to the fundamental function of a weighing mechanism, in which an adjustment of the restoring force by which the chair counteracts the movements of the person—such as a leaning back of the person, for example—is performed by way of the body weight of a person seated on the chair, we refer in principle to WO 2007/110732 A2, which has already been referred to in the introduction to the description.” ---

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
angular position relative to the frame with no user sitting in the seat; and	7:8–12: “The rear swing arm 8 (see in particular Fig. 2) is articulated on the support 6 so as to be pivotable about a rotation axis D68 and connected to the seat shell S, wherein the support 6 is connected to the seat element 5 so as to be pivotable about a rotation axis D56.”	DE'156, [0029]: “The rear swing arm 8 (see in particular Fig. 2) is articulated on the support 6 so as to be pivotable about a rotation axis D68 and connected to the seat shell S, wherein the support 6 is connected to the seat element 5 so as to be pivotable about a rotation axis D56.”
	--- 6:62–65: “The front swing arm 7 is articulated on the support 6 so as to be pivotable about a rotation axis D67 and is connected to the seat element 5 so as to be pivotable about a rotation axis D65”	--- DE'156, [0028]: “The front swing arm 7 is articulated on the support 6 so as to be pivotable about a rotation axis D67 and is connected to the seat element 5 so as to be pivotable about a rotation axis D65 . . .”
	--- 6:54–57: “As is shown in particular in FIGS. 1 to 6, a foot element 3, a back element 4, and a seat element 5 are articulatable on the mechanical assembly 2 for the chair 1. Here, the back element 4 and the seat element 5 form a seat shell S.”	--- DE'156, [0027]: “As is shown in particular in Figs. 1 to 6, a foot element 3, a back element 4, and a seat element 5 are articulatable on the mechanical functional group 2 for the chair 1. Here, the back element 4 and the seat element 5 form a seat shell S.”
	--- 8:9–15: “the leaf springs 26, 27, 28, and 29 bear in each case by way of a lower side 26b, 27b, 28b, 29b on the respectively assigned bearing 33, 31, 34, 32 and by way of opposite end regions 26c, 27c, 28c, 29c indirectly support the seat shell S or directly support the rear swing arm 8 on the cross brace 24 thereof (see FIG. 5).”	--- DE'156, [0033]: “the leaf springs 26, 27, 28, and 29 each bear, with a lower side 26b, 27b, 28b, 29b on the respective bearings 33, 31, 34, 32 assigned to them, and indirectly support, by way of opposite end regions 26c, 27c, 28c, 29c, the seat shell S or directly support the rear swing arm 8 on the cross brace 24 thereof (see Fig. 5).”
	--- 8:16–22: “The external leaf springs 27, 29 of the mechanical assembly 2 form further spring elements 40,	--- DE'156, [0034]: “The external leaf springs 27, 29 of the mechanical functional group 2 form further spring

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
	41. Here, the elastic restoring force R40, R41 of the two further spring elements 40, 41, and the elastic restoring force R26, R28 of the two internal leaf springs 26, 28, add up to a total restoring force RG which by way of the swing arm 8 supports the seat shell S.”	elements 40, 41. The elastic restoring force R40, R41 of the two further spring elements 40, 41, and the elastic restoring force R26, R28 of the two internal leaf springs 26, 28 here add up to a total restoring force RG which supports the seat shell S by way of the swing arm 8.”
an adjusting assembly comprising a plurality of gears that cooperate and move relative to each other as an incident of the seat moving from the first position into the loaded position and configured to thereby increase a resistance to changing of the angular orientation of the back rest from the starting angular position,	9:19–23: “Here, a gear wheel 50 of the mechanical adjustment action 46, which is rotatably mounted on the support 6, meshes with a rack 51 which is configured on the flange 42, together with the latter forming a drive A45 for the transmissions 47, 48.” --- 9:23–51: “In the event of light stress acting on the seat element 5 or the seat shell S, respectively, the support 6, counter to the spring force of the leaf springs 49a, 49b, is lowered in relation to the flange 42 into the position S6-1 which is shown in Fig. 13. During lowering, the gear wheel 50 is driven by the rack 51 and rotates in an anticlockwise manner from a first rotary position S50-1 (see Fig. 12) to a second rotary position S50-2 (see Fig. 13). By way of an articulated lever 52, the first leg 52a of which is rigidly connected to the gear wheel 50 and the second leg 52b of which is connected in a rotating articulated manner to the first leg 52a, and the second leg 52b of which at its free end rotatably supports a further gear wheel 53, the left-hand rotation of the first gear wheel 50 forces the articulated lever 52 to slightly buckle. As this buckling takes place, the second gear	DE'156, [0039]: “A gear wheel 50 of the mechanical adjustment action 46, which is rotatably mounted on the support 6, meshes with a rack 51 formed on the flange 42 here.” --- DE'156, [0039]: “In the event of light stress acting on the seat element 5 or the seat shell S, the support 6, counter to the spring force of the leaf springs 49a, 49b, is lowered in relation to the flange 42 into the position S6-1 shown in Fig. 13. During the lowering, the gear wheel 50 is driven by the rack 51 and rotates in an anticlockwise manner from a first rotary position S50-1 (see Fig. 12) to a second rotary position S50-2 (see Fig. 13). By way of an articulated lever 52, the first leg 52a of which is rigidly connected to the gear wheel 50, and the second leg 52b of which is connected in a rotating articulated manner to the first leg 52a, and the second leg 52b of which at its free end rotatably supports a further gear wheel 53, the left-hand rotation of the first gear wheel 50 forces the articulated lever 52 to slightly buckle. As this buckling takes place, the second gear wheel 53, which runs between a further

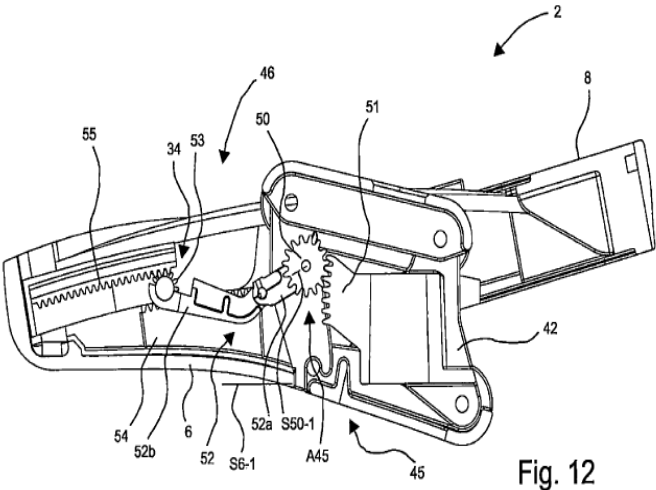
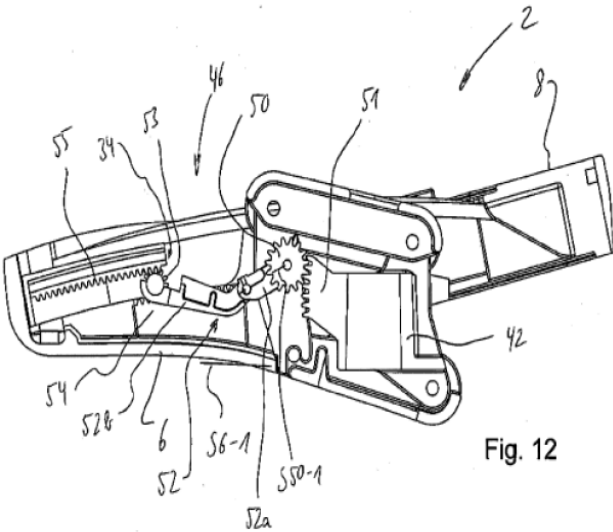
'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
	wheel 53, which runs between a further rack 54 which is configured on the support 6 and a rack 55 which is configured on the displaceable bearing 34, rolls on the lower rack 54. Here, on account of its right-hand rotation and its change of position, the second gear wheel 53 moves the third rack 55 and thus the bearing 34 to the right in the direction of the flange 42, such that the leaf spring 28 which is assigned to the bearing 34 is subject to increasing support and, on account thereof, exerts a greater restoring force on the rear swing arm 8. In Fig. 14, the body weight acting on the seat element 5 or the seat shell S, respectively, is even greater, and the support in relation to the flange 42 is lowered to the position S6-3, such that the bearing 34 is moved farther in the direction of the flange 42.” ---	rack 54 which is configured on the support 6 and a rack 55 which is configured on the displaceable bearing 34, rolls off the lower rack 54. On account of its right-hand rotation and its change of position, the second gear wheel 53 moves the third rack 55 and thus the bearing 34 to the right in the direction of the flange 42 here, such that the leaf spring 28 assigned to the bearing 34 is subject to increasing support and, on account thereof, exerts a greater restoring force on the rear swing arm 8. In Fig 14, the body weight acting on the seat element 5 or the seat shell S is even greater, and the support in relation to the flange 42 is lowered to the position S6-3, such that the bearing 34 is moved farther in the direction of the flange 42.” ---

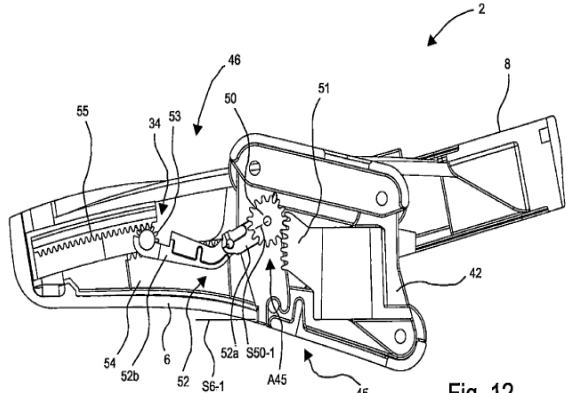
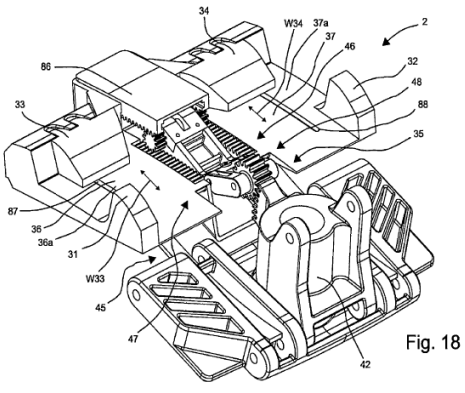
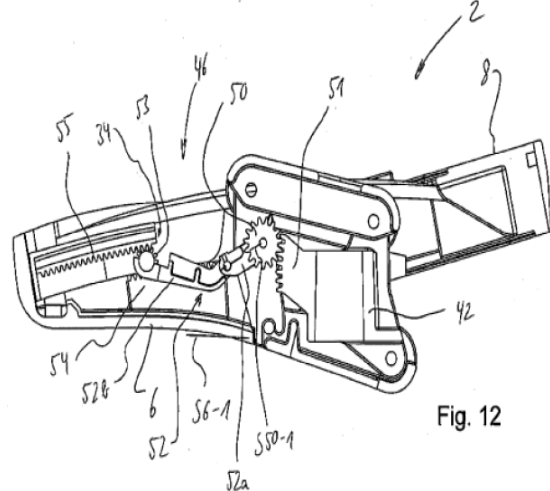
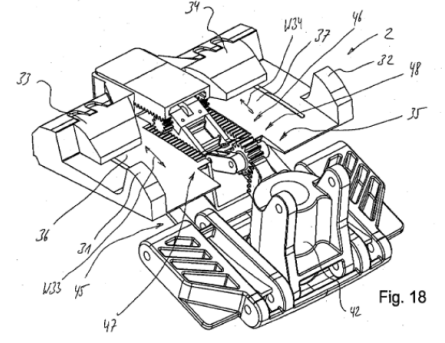
'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
	7:8–12: “The rear swing arm 8 (see in particular Fig. 2) is articulated on the support 6 so as to be pivotable about a rotation axis D68 and connected to the seat shell S, wherein the support 6 is connected to the seat element 5 so as to be pivotable about a rotation axis D56.” --- 8:23–30: “The two internal leaf springs 26, 28 of the mechanical assembly 2 are assigned to the displaceable bearings 33, 34, wherein each bearing 33, 34 is assigned to one of the leaf springs 26, 28, and wherein the bearings 33, 34 are displaceable below the leaf springs 26, 38 by the adjustment mechanism 35, and are displaceable thereby in each case on their raceways 36, 37 by identical paths W33, W34 (see Fig. 6).” --- 8:53–60: “the displaceable bearings 33, 34, depending on the body weight G of the person seated, are simultaneously displaced by the mechanical adjustment action 46 by identical paths W33, W34 along their raceways 36, 37 in such a manner that the seat shell S is supported by way of the rear swing arm 8 on the support 6 to a degree so as to correspond to the body weight G of the person (see in particular also Fig. 18).” --- 9:64–10:2: “The first transmission 47 (not illustrated in more detail) again comprises all the components	DE'156, [0029]: “The rear swing arm 8 (see in particular Fig. 2) is articulated on the support 6 so as to be pivotable about a rotation axis D68 and connected to the seat shell S, wherein the support 6 is connected to the seat element 5 so as to be pivotable about a rotation axis D56.” --- DE'156, [0035]: “The two internal leaf springs 26, 28 of the mechanical functional group 2 are assigned to the displaceable bearings 33, 34, wherein each bearing 33, 34 is assigned to one of the leaf springs 26, 28, and wherein the bearings 33, 34 are displaceable below the leaf springs 26, 38 by the adjustment mechanism 35, and are displaceable on their tracks 36, 37 by variable paths W33, W34 (see Fig. 6).” --- DE'156, [0037]: “the displaceable bearings 33, 34, depending on the body weight G of the person seated, are simultaneously displaced by the mechanical adjustment action 46 by variable paths W33, W34 along their tracks 36, 37 in such a manner that the seat shell S is supported by way of the rear swing arm 8 on the support 6 to a degree so as to correspond to the body weight G of the person (see in particular also Fig. 18).” --- DE'156, [0041]: “The first transmission 47 (not illustrated in more detail here) again comprises all the components

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
	mentioned, such that also the other bearing 33 is movable, depending on the rotation movement of the rack 51 performed on the flange 42 and on the thus caused rotation movement of the gear wheel 50.” --- 8:31–48: “The support 6 is indirectly connected to the foot element 3, wherein the mechanical assembly 2...further comprises a flange 42 (see FIG. 18), an articulation means 43 (see FIG. 9), and a weighing means 44 (see FIG. 19). The flange 42 here is connected to the foot element 3. The support 6 here by way of the articulation means 43 is articulated on the flange 42, and the support 6 here by way of the weighing means 44 is supported on the flange 42 (see FIG. 9). The articulation means 43 is configured as a four-point articulation having four articulation axes GLA-1 to GLA-4, this enabling the support 6 to be lowered when stressed by a person sitting down. The support 6 herein sinks down so far until the stress on the former is compensated for by the weighing means 44 which is formed by the further leaf springs or weighing springs 49a, 49b, respectively (see also Fig. 19). As soon as the person stands up again, the weighing springs 49a, 49b raise the support 6 again.” --- 7:26–28: “In order for a body weight G of a person (not illustrated) seated on the chair 1 to be compensated for,	mentioned, such that the other bearing 33 is also movable depending on the movement of the rack 51 formed on the flange 42 and on the thus caused rotation movement of the gear wheel 50.” --- DE'156, [0014]: “Furthermore, it is provided that the support is indirectly connected to the foot element, wherein the mechanical functional group further comprises, in addition to the support, a flange, an articulation means, and a weighing means, wherein the flange is connected to the foot element, wherein the support by way of the articulation means is articulated on the flange, wherein the support by way of the weighing means is supported on the flange. On account of this construction design, a mechanical weighing action is realized, by way of which the body weight of a person seated on the chair or sitting down on the chair, is detectable. --- DE'156, [0030]: “In order for a body weight G of a person (not illustrated) seated on the chair 1 to be compensated

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
	the mechanical assembly 2 comprises four leaf springs 26, 27, 28, and 29.”	for, the mechanical functional group 2 comprises four leaf springs 26, 27, 28, and 29.”
whereby as an incident of a user sitting on the seat a leaning force greater than the first leaning force is required to change the angular position of the back rest from the starting angular position.	9:23–51: “In the event of light stress acting on the seat element 5 or the seat shell S, respectively, the support 6, counter to the spring force of the leaf springs 49a, 49b, is lowered in relation to the flange 42 into the position S6-1 which is shown in Fig. 13. During lowering, the gear wheel 50 is driven by the rack 51 and rotates in an anticlockwise manner from a first rotary position S50-1 (see Fig. 12) to a second rotary position S50-2 (see Fig. 13). By way of an articulated lever 52, the first leg 52a of which is rigidly connected to the gear wheel 50 and the second leg 52b of which is connected in a rotating articulated manner to the first leg 52a, and the second leg 52b of which at its free end rotatably supports a further gear wheel 53, the left-hand rotation of the first gear wheel 50 forces the articulated lever 52 to slightly buckle. As this buckling takes place, the second gear wheel 53, which runs between a further rack 54 which is configured on the support 6 and a rack 55 which is configured on the displaceable bearing 34, rolls on the lower rack 54. Here, on account of its right-hand rotation and its change of position, the second gear wheel 53 moves the third rack 55 and thus the bearing 34 to the right in the direction of the flange 42, such that the leaf spring 28 which is assigned to the bearing 34 is subject to increasing support and, on account thereof,	DE'156, [0039]: “In the event of light stress acting on the seat element 5 or the seat shell S, the support 6, counter to the spring force of the leaf springs 49a, 49b, is lowered in relation to the flange 42 into the position S6-1 shown in Fig. 13. During the lowering, the gear wheel 50 is driven by the rack 51 and rotates in an anticlockwise manner from a first rotary position S50-1 (see Fig. 12) to a second rotary position S50-2 (see Fig. 13). By way of an articulated lever 52, the first leg 52a of which is rigidly connected to the gear wheel 50, and the second leg 52b of which is connected in a rotating articulated manner to the first leg 52a, and the second leg 52b of which at its free end rotatably supports a further gear wheel 53, the left-hand rotation of the first gear wheel 50 forces the articulated lever 52 to slightly buckle. As this buckling takes place, the second gear wheel 53, which runs between a further rack 54 which is configured on the support 6 and a rack 55 which is configured on the displaceable bearing 34, rolls off the lower rack 54. On account of its right-hand rotation and its change of position, the second gear wheel 53 moves the third rack 55 and thus the bearing 34 to the right in the direction of the flange 42 here, such that the leaf spring 28 assigned to the bearing 34 is subject to increasing support and, on account thereof, exerts a greater restoring force on the rear swing arm 8. In Fig 14, the body weight acting on

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
	exerts a greater restoring force on the rear swing arm 8. In Fig. 14, the body weight acting on the seat element 5 or the seat shell S, respectively, is even greater, and the support in relation to the flange 42 is lowered to the position S6-3, such that the bearing 34 is moved farther in the direction of the flange 42.”	the seat element 5 or the seat shell S is even greater, and the support in relation to the flange 42 is lowered to the position S6-3, such that the bearing 34 is moved farther in the direction of the flange 42.”
Claim 15		
15. The reconfigurable apparatus for seating a user according to claim 1 wherein the plurality of gears comprises first and second gears that each turns around an axis and the first and second gears have different diameters.	9:23–51: “In the event of light stress acting on the seat element 5 or the seat shell S, respectively, the support 6, counter to the spring force of the leaf springs 49a, 49b, is lowered in relation to the flange 42 into the position S6-1 which is shown in Fig. 13. During lowering, the gear wheel 50 is driven by the rack 51 and rotates in an anticlockwise manner from a first rotary position S50-1 (see Fig. 12) to a second rotary position S50-2 (see Fig. 13). By way of an articulated lever 52, the first leg 52a of which is rigidly connected to the gear wheel 50 and the second leg 52b of which is connected in a rotating articulated manner to the first leg 52a, and the second leg 52b of which at its free end rotatably supports a further gear wheel 53, the left-hand rotation of the first gear wheel 50 forces the articulated lever 52 to slightly buckle. As this buckling takes places, the second gear wheel 53, which runs between a further rack 54 which is configured on the support 6 and a rack 55 which is configured on the displaceable bearing 34, rolls on the	DE'156, [0039]: “In the event of light stress acting on the seat element 5 or the seat shell S, the support 6, counter to the spring force of the leaf springs 49a, 49b, is lowered in relation to the flange 42 into the position S6-1 shown in Fig. 13. During the lowering, the gear wheel 50 is driven by the rack 51 and rotates in an anticlockwise manner from a first rotary position S50-1 (see Fig. 12) to a second rotary position S50-2 (see Fig. 13). By way of an articulated lever 52, the first leg 52a of which is rigidly connected to the gear wheel 50, and the second leg 52b of which is connected in a rotating articulated manner to the first leg 52a, and the second leg 52b of which at its free end rotatably supports a further gear wheel 53, the left-hand rotation of the first gear wheel 50 forces the articulated lever 52 to slightly buckle. As this buckling takes place, the second gear wheel 53, which runs between a further rack 54 which is configured on the support 6 and a rack 55 which is configured on the displaceable bearing 34, rolls off the lower rack 54. On account of its right-hand rotation

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
	lower rack 54. Here, on account of its right-hand rotation and its change of position, the second gear wheel 53 moves the third rack 55 and thus the bearing 34 to the right in the direction of the flange 42, such that the leaf spring 28 which is assigned to the bearing 34 is subject to increasing support and, on account thereof, exerts a greater restoring force on the rear swing arm 8. In Fig. 14, the body weight acting on the seat element 5 or the seat shell S, respectively, is even greater, and the support in relation to the flange 42 is lowered to the position S6-3, such that the bearing 34 is moved farther in the direction of the flange 42.” --- Fig. 12:  Fig. 12	and its change of position, the second gear wheel 53 moves the third rack 55 and thus the bearing 34 to the right in the direction of the flange 42 here, such that the leaf spring 28 assigned to the bearing 34 is subject to increasing support and, on account thereof, exerts a greater restoring force on the rear swing arm 8. In Fig 14, the body weight acting on the seat element 5 or the seat shell S is even greater, and the support in relation to the flange 42 is lowered to the position S6-3, such that the bearing 34 is moved farther in the direction of the flange 42.” --- DE'156, Fig. 12:  Fig. 12

'753 Patent Claims	Ex. 1008: 10,531,738	Ex. 1010: DE 10 2015 003 156 (DE'156)
Claim 16		
16. The reconfigurable apparatus for seating a user according to claim 15 wherein the first and second gears turn around different axes.	Fig. 12:  Fig. 12 --- Fig. 18:  Fig. 18	DE'156, Fig. 12:  Fig. 12 --- DE'156, Fig. 18:  Fig. 18